BRIGHAM YOUNG UNIVERSITY

Annual Catalog Issue

1966-68

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Brigham Young University Bulletin

CATALOG OF COURSES

1966-67 and 1967-68

This catalog covers two complete academic years. Please keep it for reference throughout the 1966-67 and 1967-68 school years.

Published by

Brigham Young University

Provo, Utah

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University Calendar

Although as accurate as possible at the time of the printing of this catalog, the calendar is subject to change at the discretion of the University administration.

1966-67

Fall Semester, 1966

July 30 (Saturday): Final date for submitting admissions applications for Fall Semester, 1966-67.
September 8, 9 (Thursday, Friday): Utah Conference on Higher Education.
September 12, 13 (Monday, Tuesday): Preschool Faculty Conference.
September 13, 14 (Tuesday, Wednesday): New-student orientation.
September 15 (Thursday): Registration (new students).
September 16, 17 (Friday, Saturday): Registration.
September 19 (Monday): Class instruction begins.
September 30 (Friday): Last day on which late registration may occur for Fall Semester and for adding and dropping classes.
October 8 (Saturday): Junior English Proficiency Examination.
November 5 (Saturday): Homecoming.
November 11 (Friday): Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.
November 19 (Saturday): Junior English Proficiency Examination.
November 24, 25 (Thursday, Friday): Thanksgiving recess.
December 16 (Friday): Last day of classes before Christmas recess.
January 3 (Tuesday): Classes resume after Christmas recess.
January 16, 17 (Monday, Tuesday): End of formal class period for Fall Semester. Final examinations may not be given before January 18.
January 18, 19, 20, 21, 23, 24, 25, 26 (Wednesday, Thursday, Friday, Saturday, Monday, Tuesday, Wednesday, Thursday): Fall Semester examination period.

Spring Semester, 1967

January 20 (Friday): Final date for submitting admissions applications for Spring Semester, 1967.
January 27 (Friday): New-student orientation.
January 30, 31 (Monday, Tuesday): Registration for all new and regular students.
February 1 (Wednesday): Class instruction begins.
February 11 (Saturday): Junior English Proficiency Examination.
February 15 (Wednesday): Last day on which late registration may occur for Spring Semester and for adding and dropping classes.
March 24 (Friday): Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.
April 1 (Saturday): Junior English Proficiency Examination.
May 3 (Wednesday): "Y" Day.
May 16, 17 (Tuesday, Wednesday): End of formal class periods for Spring Semester. Final examinations may not be given before May 17.
May 17, 18, 19, 20, 22, 23, 24, 25 (Wednesday, Thursday, Friday, Saturday, Monday, Tuesday, Wednesday, Thursday): Spring Semester final examinations.
May 26 (Friday): Commencement Exercises and college convocations.

Summer Session, 1967

May 31 (Wednesday): Final date for submitting admissions applications for First Term, Summer Session, 1967.
June 5, 6, 7, 8, 9 (Monday, Tuesday, Wednesday, Thursday, Friday): Special workshops and conferences.
June 9 (Friday): New-student orientation.
June 12 (Monday): Registration.
June 13 (Tuesday): First Term begins.
June 24 (Saturday): Junior English Proficiency Examination.
June 30 (Friday): Final date for submitting admissions applications for Second Term, Summer Session, 1967.
July 4 (Tuesday): National holiday observed.
July 14 (Friday): First Term ends.
July 15 (Saturday): Second Term registration.
July 17 (Monday): Second Term begins.
July 24 (Monday): State holiday observed.
August 17 (Thursday): Second Term ends — commencement.

1967-68

Fall Semester, 1967

July 31 (Monday): Final date for submitting admissions applications for Fall Semester, 1967-68.
September 7, 8 (Thursday, Friday): Utah Conference on Higher Education.
September 11, 12 (Monday, Tuesday): Preschool Faculty Conference.
September 12, 13 (Tuesday, Wednesday): New-student orientation.
September 14 (Thursday): Registration (new students).
September 15, 16 (Friday, Saturday): Registration.
September 18 (Monday): Class instruction begins.
September 29 (Friday): Last day on which late registration may occur for Fall Semester and for adding and dropping classes.
September 30 (Saturday): Junior English Proficiency Examination.
November 10 (Friday): Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.
November 11 (Saturday): Homecoming.
November 18 (Saturday): Junior English Proficiency Examination.
November 23, 24 (Thursday, Friday): Thanksgiving recess.
December 20 (Wednesday): Last day of classes before Christmas recess.
January 3 (Wednesday): Classes resume after Christmas recess.
January 15, 16 (Monday, Tuesday): End of formal class period for Fall Semester. Final examinations may not be given before January 24.
January 17, 18, 19, 20, 22, 23, 24, 25 (Wednesday, Thursday, Friday, Saturday, Monday, Tuesday, Wednesday, Thursday): Fall Semester examination period.

Spring Semester, 1968

January 19 (Friday): Final date for submitting admissions applications for Spring Semester, 1968.
January 26 (Friday): New-student orientation.
January 29, 30 (Monday, Tuesday): Registration for all new and regular students.
January 31 (Wednesday): Class instruction begins.
February 10 (Saturday): Junior English Proficiency Examination.
February 14 (Wednesday): Last day on which late registration may occur for Spring Semester and for adding and dropping classes.
March 22 (Friday): Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.
March 30 (Saturday): Junior English Proficiency Examination.

May 1 (Wednesday): "Y Day."

May 21, 22 (Tuesday, Wednesday): End of formal class periods for Spring Semester. Final examinations may not be given before May 22.

May 22, 23, 24, 25, 27, 28, 29, 30 (Wednesday, Thursday, Friday, Saturday, Monday, Tuesday, Wednesday, Thursday): Spring Semester final examinations.

May 31 (Friday): Commencement Exercises and college convocations.

Summer Session, 1968

May 31 (Friday): Final date for submitting admissions applications for First Term, Summer Session, 1968.

June 10, 11, 12, 13, 14 (Monday, Tuesday, Wednesday, Thursday, Friday): Special workshops and conferences.

June 14 (Friday): New-student orientation.

June 17 (Monday): Registration.

June 18 (Tuesday): First Term begins.

June 29 (Saturday): Junior English Proficiency Examination.

July 1 (Monday): Final date for submitting admissions applications for Second Term, Summer Session, 1968.

July 4 (Thursday): National holiday observed.

July 19 (Friday): First Term ends.

July 20 (Saturday): Second Term registration.

July 22 (Monday): Second Term begins.

July 24 (Wednesday): State holiday observed.

August 23 (Friday): Second Term ends — commencement.

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Student Academic Services

Office of Admissions and Records

The Office of Admissions and Records is a service office for all Brigham Young University students from the time of their first inquiry about the University until they graduate. This office is also a service agency for faculty members, parents, the University administration and the various agencies which are eligible to receive information from the records of students. The total responsibility of the office is divided into the following seven functional areas under the general supervision of the dean of Admissions and Records: High School-Junior College Relations, Undergraduate Scholarships and Awards, Admissions, Admissions Information and Guidance Center, Registration, Records, and Graduation.

Admission

B.Y.U. Standards. Students who are accepted for admission to Brigham Young University are required to maintain ideals and standards in harmony with those of The Church of Jesus Christ of Latter-day Saints. High standards of honor, integrity, and morality; graciousness in personal behavior; application of Christian ideals in everyday living; and abstinence from tea, coffee, alcohol and tobacco are required of every student.

Applications for Admission. Admission to the University is granted on the basis of an official application. Undergraduate students should request forms from the Office of Admissions and Records. Graduate students are admitted through the Office of the Graduate School and should request applications and information from that office. All students from countries outside the United States should request forms and information from the B.Y.U. Foreign-Student Office.

Deadline for Applications. Applications for admission and readmission and the necessary accompanying materials, including two copies of all transcripts and scores from the American College Tests, must reach the Admissions Office no later than the deadline dates indicated below:

Students who wish to enroll for Summer School, 1966	Must have submitted all admission materials by
First Term	May 31
Second Term	June 30
Fall Semester, 1966	July 30
Spring Semester, 1967	January 20
Summer School, 1967	
First Term	May 31
Second Term	June 30

American College Tests. Before being admitted to Brigham Young University, all entering freshmen and all transfer students with less than fifteen semester hours of credit must take the American College Tests. Students must take the tests sufficiently early for the results to reach the Admissions Office before the admissions deadline dates indicated above.

The tests, which cost $4.00, are administered at testing centers located in all of the states and many foreign countries. Following is a schedule of the registration and test dates for the school year 1965-66:

Dates to Register for the Test	**Dates to Take the Test**
Sept. 1 - Oct. 16	Nov. 13
Nov. 15 - Jan. 22	Feb. 19
Jan. 24 - April 2	April 23
April 25 - June 4	June 25
June 6 - July 16	Aug. 6

(The 1966-67 dates will be announced later.)

Students are urged to take the test late in their junior year or as early as possible during their senior year of high school. Information may be obtained from high school principals and counselors, from the B.Y.U. Office of Admissions and Records, or from the ACT Central Registration Unit, 519 West Sheridan Road, McHenry, Illinois 60050. **Students will not be admitted without these test results.** If it is impossible to take the test at regular American College Test Centers, upon request special arrangements can be made for students to take the tests at B.Y.U. prior to registration. A fee in addition to the regular test fee of $4.00 will be required to help defray the costs of this special test appointment. The student's admission may be denied even at that late date if his combined grade-point average in basic subjects and his ACT scores are below the B.Y.U. admissions standard.

Transcripts. High school graduates entering college for the first time should have the high schools from which they graduated send **two** transcripts of their high school work.

Students who have attended college should have each of the institutions attended send **two** copies of the transcripts of college work. Transcripts should be provided for **all** college level work in which the student has been enrolled. High school transcripts are not necessary in the case of students who have attended college, but frequently are helpful if the college grades are low.

Health Questionnaire. A questionnaire about the student's personal health is to be completed and submitted with the application for admission. The information contained on the health questionnaire is not used by the Admissions Office and in no way influences the admissions decision. However, it is important that the University have this information in order to provide proper medical care for those students who enroll at B.Y.U.

New Freshman Students. To be admitted to the University as a regularly matriculated student, an applicant must be a graduate of an approved high school and must have completed ten academic units, three of which must be English, and one of which must be algebra or geometry. The remaining six units may be from the following areas: English, mathematics, science, social science, foreign language.

Admission of new freshmen will be granted upon the basis of the high school academic record in basic high school subjects and ACT scores.

A student who has not graduated from high school but who has sixteen units (Carnegie) of high school credit and the recommendation of his high school principal may be admitted if approved for entrance by the Admissions Committee.

Students nineteen years of age and over who have not completed high school, but who otherwise are eligible for admission, may register as regularly matriculated students after the successful completion of the high school level General Educational Development Tests. These tests may be taken at Brigham Young University, at the testing divisions of most colleges and universities, at most armed forces educational centers, or at most high schools.

Students who have a 3.0 (B) average in their high school work can be considered for acceptance to B.Y.U. as soon as they have enrolled in their senior year of high school and have taken the American College Test. Students whose grade-point average is lower than a 3.0 (B) will be considered for admission upon the basis of seven semesters of high school work and the American College Test scores.

New Transfer Students. To be admitted to B.Y.U. transfer students must have obtained an average of 2.0 (A=4.0, B=3.0, C=2.0, D=1.0, E=0) in their previous college work. They also must have a 2.0 grade-point average in their most recent college work. Applicants whose grades are deficient will have their records examined by the Admissions Committee. Transfer students with less than fifteen semester hours of college credit must take the American College Test prior to being accepted to B.Y.U. In addition to the test results, two copies of high school transcripts and two copies of transcripts from colleges previously attended should be sent to the Admissions Office. Transfer students who have fifteen semester hours of credit or more are to furnish two copies of the college transcripts in order to be considered for admission. After transfer students with fifteen or more credit hours are admitted, they should send American College Test scores to the Admissions Office or take the test at B.Y.U. immediately prior to registration. The test results are used for advising and placement purposes.

New Students from Foreign Countries. To be admitted to the University a student from a foreign country who is not a U.S. citizen must present credentials corresponding to the requirements stated above under the headings "New Freshman Students" or "New Transfer Students." In addition, the student must obtain a clearance from the B.Y.U. foreign-student adviser before being accepted.

Former B.Y.U. Students. All former B.Y.U. students who have discontinued school for one semester or more must apply for readmission. Readmission applications are furnished by the Office of Admissions and Records upon request.

Continuing Students. Registration materials are prepared for all students in attendance at the University during the previous semester.

Summer School Students. Four separate classifications will be used for Summer School students as follows:

"Fully Matriculated" students who meet all of the entrance requirements outlined above will be permitted to register any semester following their acceptance. They may enroll the following summer without applying for readmission.

"Summer Only" students whose academic standing is marginal will be permitted to take up to ten credit hours of summer classes on a probationary status. If they pass ten hours with a cumulative grade-point average (GPA) of "C" or better, they may then upon application be considered for admission to succeeding semesters and summer sessions.

"Special Courses" students who wish to attend workshops, clinics, conferences, institutes, etc. need not apply for University admission but may receive credit through the Division of Continuing Education. However, such credit will not apply toward a degree until such a student applies for and receives formal University admittance.

"Noncredit" students who desire additional training by registering for certain offerings without obtaining college credit may do so.

Students who attended Summer School the previous year need not apply for readmission. Registration materials are prepared for these students.

Notice of Acceptance. A "permit to register" will be mailed to all students accepted by the University. If, in the judgment of the committee, it appears best for the student that he not enroll at B.Y.U., alternative courses of action will be suggested to help him prepare to enroll at B.Y.U. at a later time.

Tuition and Fees. As shown in the section entitled "University Fees" tuition and fees for one semester are $175 and for two semesters $350. Non-L.D.S. students pay an additional $75 tuition per semester. The added tuition helps somewhat to equalize the burden borne by the Church in paying from Church tithing funds approximately three-fourths of the cost of operating the University.

Catalog. The general catalog containing the offerings of the entire University will be mailed to those interested if they will send $1.00 to B.Y.U., University Mail Service Center, B-69 ASB, Provo, Utah 84601.

Student Employment. A student needing employment should contact the B.Y.U. Placement Center in person as soon as possible after arriving in Provo. Important in finding work are skills, class schedule, willingness to accept available work, and diligent searching. Preference is given those students with greatest financial need.

University Housing. All prospective B.Y.U. students who wish to live on campus should make application for housing on application forms available from the Office of Student Housing. A $10 housing application fee should be submitted with the application.

Final housing assignments for new students are made only after the students have been officially accepted by the University.

Off-Campus Housing in Provo Community. Detailed information relative to housing accommodations in the community will be furnished by the Residential Housing Office upon request. All students living off-campus must live in University-approved student housing.

Educational Guidance. All students who apply to B.Y.U. are either admitted or are given direction and guidance regarding their educational plans. Written suggestions, offers for further testing, offers for personal counseling, all are provided.

Where to Write for Information

Admissions—Admissions Office, A-185 ASB
Scholarships—Scholarship Chairman, B-188 ASB
Student Loans—Financial Aids Officer, D-151 ASB
Housing—Housing Office, C-141 ASB
Selective Service—Admissions and Graduation Counselor, A-183 ASB
Summer School—Director of Summer School, C-356 ASB
Honors Program—Director of the Honors Program, 436 JRCL
General Inquiries—University Mail Service, B-69 ASB

Letters containing questions or inquiries about several items may be sent to the University Mail Service, B-69 ASB.

Advanced Placement

Eight semester hours of credit will be granted for a composite grade of 5, 4, or 3 on any advanced-placement examination taken by a high school student at the completion of a full-year course, with class meetings held each day of the school year, organized according to the description published by the Committee on Advanced Placement of the College Entrance Examination Board.

Upon recommendation of the academic department concerned, Brigham Young University may (a) grant eight semester hours of credit for a grade of 2 on both parts of an advanced-placement examination taken under conditions described in Paragraph 1, or, (b) allow appropriate advanced placement without college credit. A departmental recommendation will be based upon a review of all pertinent factors, including the student's advanced-placement examination and his achievement in the special course.

Registration

Registration Procedure. Details of the registration procedure are outlined in the class schedule issued each semester by the Office of Admissions and Records.

Limitation on Credit in One Semester. An undergraduate student in good standing may register for as many as 17 hours of credit in any one semester by following the regular registration procedure. In the case of a student who has high academic ability, the dean of a college may authorize the student to register for a maximum of 18 hours for the first semester in residence and a maximum of 19 hours for any succeeding semester. Any student who has completed 15 or more hours of college work and who has a cumulative grade-point average of 3.5 (or a 3.5 average in the semester previous to registration) may register, with the consent of his dean and the dean of Admissions and Records, for 21 hours. Classes taken for audit or by correspondence, and evening classes or off-campus courses constitute a part of the student's total registration. Any exceptions to the above rules must be presented to the dean of Admissions and Records for consideration.

Time of Registration. Students are urged to register on the days set for registration (See University Calendar). A late fee is charged each student who does not complete his registration on the specified days. The term "registration" refers to the entire procedure, including the payment of fees. A student may enroll in any class during the first three weeks of the semester if he has the approval of his adviser, the permission of the instructor of the class, and the approval of the dean of the college in which he is enrolled.

Course Divisions. Courses of study are given numbers as follows:

Preparatory and remedial courses	1- 99
Lower division courses	100-299
Upper division courses	300-499
Graduate or advanced undergraduate courses	500-599
Graduate courses	600 and above

Withdrawal from Classes. Any student withdrawing from individual classes must clear with his adviser, the instructor of the class, and the dean of the college in which he is registered.

a. If a student officially withdraws from a class during the first three weeks of a semester, the permanent record will not show a registration for the class.

b. A student doing passing work in a course may drop the class between the second and tenth week if such action is recommended by the teacher, the student's adviser, and the dean of his college. A grade of "W" will be assigned for the class. A student doing failing work in a course may drop the class after the first three weeks if he has the approval of his adviser and the dean of his college and the teacher's signature. A grade of "WE" will be assigned for each class so dropped. A "WE" grade counts the same as an "E" grade in computing the grade-point average. Withdrawals after the second week, however, are for emergency reasons only.

c. If a student drops a class at any time during the semester without officially withdrawing, he will receive a grade of "UW" (meaning unofficial withdrawal) in each course so dropped. This will indicate that the student has failed to clear officially with the University. A "UW" grade counts the same as an "E" grade in computing the grade-point average.

Withdrawal from Evening Classes. A student withdrawing from classes for which he has registered in the Evening Classes Office must do so by notifying that office and by completing the withdrawal forms. An Evening Classes student who does not properly withdraw will receive a failing grade.

Complete Withdrawal from the University. A student discontinuing his entire registration at the University is required to clear his termination through the office of the dean of his college and the office of the dean of students. A student withdrawing from the University after the third week must be doing passing work in order to discontinue without academic failure.

Registration of Prospective Secondary Teachers. All certificates for teaching, counseling, supervising, administration, special education, and library work in the public schools of Utah are granted by the State Department of Public Instruction.

When all requirements for state certification have been fulfilled, students of the University registered in any of its colleges or in the Graduate School will be recommended for certification by the dean of the College of Education. The President makes final decisions on all matters pertaining to education in the University. The President has assigned the dean of the College of Education to act in an administrative capacity as the representative of the University. The dean is assigned the responsibility to give final approval on all aspects of the teacher education program, including matters pertaining to general education, professional education, and teaching majors and minors. All students in the teacher certification program, regardless of their college registration, are required to have an assigned adviser in the College of Education to approve their programs.

Most students seeking an elementary certificate register in the College of Education. However, programs are available for majors in child development and family relationships and in speech correction to obtain an elementary teaching certificate.

Students desiring state certificates should make application with the dean of the College of Education through the Teacher Certification Office and not with the State Department of Public Instruction.

Completion of Registration. When the student has followed the prescribed registration procedure and has paid his fees, his registration is complete. The University will hold the student responsible for completion of the courses for which he has enrolled, unless he obtains approval for a change in registration or files an official withdrawal from the University.

Records

Classification of Students. At the beginning of each semester, students are classified for that semester as follows:

Credit hours earned	Classification
0 to 31	freshman
32 to 62	sophomore
63 to 93	junior
94 and over	senior

Engineering students having more than 124 semester hours are classified as fifth-year professional students. Completion of the required courses in freshman composition is prerequisite to classification as a junior. A student who has met the entrance requirements but who registers for nine hours of work or less will be classified as a part-time student.

A regular student who has completed all requirements for the bachelor's degree is classed as a graduate student. A graduate student or a student holding a bachelor's degree from a four-year accredited institution may register at Brigham Young University as follows:

a. In the Graduate School under the regular requirements for an advanced degree.

b. In the Graduate School as a nondegree-seeking student.

Admission procedures to the Graduate School are indicated in the Graduate School Catalog and apply to those who have graduated from Brigham Young University as well as from other universities.

Credits. A student may earn credit which will be recognized by the University in the following ways:

a. Completing work in the regular courses offered by the institution.

b. Completing courses by correspondence, in evening classes, or in the off-campus centers. All such courses taken by a currently enrolled student must have the approval of the student's dean and will be considered part of his current semester load. Credit earned through classes which constitute unauthorized overload will not be allowed.

c. Completing work in an accredited college and then transferring the credit to Brigham Young University. Credit from other schools must be filed with the Office of Admissions and Records upon application for admission to the University.

d. Passing a satisfactory examination in any course offered by the University, providing the student has never been registered in the class either for credit or audit. Such credit will be given only with the joint consent of the chairman of the department concerned and the dean of the college in which the student is registered. A fee of $7.50 per credit hour is charged for special examinations, provided the total fee for any one subject does not exceed $45.00.

By payment of an auditing fee a student may obtain permission to audit courses of instruction. Under no circumstances may credit be obtained by means of special examinations for courses which have been audited or in which the student has been enrolled.

Grading System

The present grading system uses the letters A, A—, B+, B, B—, C+, C, C—, D+, D, and D— to indicate that the student receives credit, and an E to indicate that no credit is allowed.

The "A" grade is given only to students whose intellectual capacity and actual academic achievement are of exceptional quality. Work of a quality somewhat higher than average but not of exceptional quality receives a "B." "C" indicates that the student has completed classroom work, outside assignments, and examinations in an average manner.

Students who fail to reach the average academic achievement, but who do work of a quality still acceptable to the University are given a "D" grade. A "D" grade draws credit even though the work done is not fully satisfactory. Students failing to achieve work of minimum university quality receive an "E" grade. This grade mark draws no credit.

If a student withdraws officially from a class during the first two weeks of a semester, the permanent record will not show a registration for that class.

If a student properly withdraws from a class between the second and tenth week, his record will be marked "W" if he is passing in the course and "WE" if he is failing the course.

If a student discontinues attending a class at any time during the semester without going through the official withdrawal procedures, he will receive a grade of "UW" (unofficial withdrawal). A "UW" has the same negative value as an "E" in computing a grade-point average.

Students withdrawing after the second week who cannot present a valid excuse for being absent from class prior to withdrawal are graded "UW" if they do not withdraw officially and "WE" if they withdraw officially.

The letter "I" (incomplete) is used to indicate that the work is not yet completed. It is given **only** when special arrangements for the completion of the specific work involved have been made between the teacher and the student. The "I" **never** is given when a student has failed or is failing the course. An "I" grade is regarded as an "E" in the Office of Admissions and Records unless the work is completed within one year from the date the grade is given.

When a thesis or dissertation has been completed, one of the following marks may be given: (1) "E" for failure; (2) "P" when the thesis has been satisfactorily completed. The letter of "P" (passed) is also used in connection with the student teaching program of the College of Education of the University.

Once recorded in the Office of Admissions and Records, no final grade may be changed except to correct the record when an error in calculation has been made by the teacher, in posting by the Data Processing Department, by the Office of Admissions and Records, or by action of the Academic Regulations Committee. When such corrections need to be made, an official "Grade Change Authorization" form must be completed; signed by the teacher, the chairman of the department, and the dean of the college; and sent directly to the Office of Admissions and Records.

Semester grade reports are mailed to all students at the end of each semester if they leave a self-addressed, stamped envelope with the Records Office. It is also the policy of the University to send semester grade reports to the parents of all single freshman students under twenty-one years of age and all unmarried students who are on academic probation.

Grade-Point Values

A	4.0	C	2.0
A—	3.7	C—	1.7
B+	3.4	D+	1.4
B	3.0	D	1.0
B—	2.7	D—	.7
C+	2.4	E	.0

Repeating Classes. Classes may be repeated in the following ways:

a. Repeat at Brigham Young University courses taken at Brigham Young University.

b. Repeat at Brigham Young University courses taken at other institutions.

c. Repeat at other institutions courses taken at the same institution and have the credit transferred to Brigham Young University.

When a class has been repeated, the grade used in the calculation of the student's grade-point average is the grade earned the last time the repeated class was taken.

Degrees Offered

Associate Degrees. An associate degree is awarded by the University in the fields of agriculture, business, commercial art, computer programming, engineering, genealogy, home service, industrial technology, library, nursing (R.N.), and photography.

Baccalaureate Degrees. The University confers the baccalaureate degrees of Bachelor of Engineering Science, Bachelor of Science, Bachelor of Arts, Bachelor of Music, and Bachelor of Fine Arts in the various academic colleges.

Bachelor of Arts and Bachelor of Science Degrees. Each department determines which type of bachelor's degree it gives on the basis of appropriateness for the area of study involved. Some departments are permitted to offer both degrees. Each candidate will receive the degree designated by the department. The following list indicates the degrees offered by the various departments and areas of study:

B.A. Degree

Archaeology
Asian Studies
Communications
Dramatic Arts
English
History
Humanities
International Relations
Languages
Latin-American Studies
Music
Political Science
Russian Studies

B.S. Degree

Accounting
Agricultural Economics
Agricultural Education
Agronomy
Animal Science
Anthropology
Bacteriology
Botany
Building Construction Technology
Business Education & Office Management
Business Management
Chemistry
Design and Drafting Technology
Food and Nutrition
Geography
Geology
Health and Safety Education
Homemaking Education
Horticulture
Housing and Home Management
Child Development
Industrial Arts Teacher Education
Mathematics
Nursing
Physical Education
Physics
Psychology
Recreation Education
Sociology
Speech and Hearing
Statistics
Technical Teacher Education
Tool and Manufacturing Technology
Youth Leadership
Zoology

B.A. or B.S. Degree

Clothing and Textiles
Economics
  B.S. for economics majors in College of Business
  B.A. for economics majors in College of Social Sciences
Teacher Education

B.A. or B.F.A. Degrec

Art

Bachelor of Music Degree

Music Education

Bachelor of Engineering Science Degrees

Chemical Engineering Science
Civil Engineering Science
Electrical Engineering Science
Geological Engineering Science
Mechanical Engineering Science

Advanced Degrees. Requirements for master's and doctor's degrees conferred by the University are described in the Graduate School section of this catalog.

Doctor's degrees are awarded by the University in the fields of bacteriology, botany, analytical-physical chemistry, biochemistry, inorganic chemistry, organic chemistry, physical chemistry, child development, family relationships, marriage counseling, economic geology, mineralogy and petrology, paleontology, stratigraphy and sedimentation, structural, field and dynamic geology, educational administration, educational psychology, curriculum and instruction, Bible and modern scripture, history of religion, religious education, history, French, German, Spanish, music, physics, clinical psychology, general psychology, sociology and anthropology, and zoology and entomology.

General Education Program

Transfer Students. Most students transferring to B.Y.U. from accredited institutions will have met the general education requirements except in religion and American history and government if they successfully completed a satisfactory general education program as prescribed by the institution previously attended. Deficiencies will be shown on the "Evaluation of Transfer Credit" sent to the student.

In evaluating a student's transfer credits for purposes of general education, the University will recognize and accept all reasonable equivalents of its own approved courses.

All transfer students will have their transcripts evaluated in terms of the B.Y.U. programs and will be notified prior to or during their first semester at B.Y.U. as to the requirements remaining to be completed, if any. Early application is recommended.

American History and Government. This requirement, which applies to all candidates for the bachelor's degree, may be satisfied by examination or by course work. Every student entering the University takes a placement test covering both American history and American government. Students showing highly superior preparation are exempted from course work under the requirement. All other students take History 170, except as provided below.

Students majoring or minoring in history, political science, economics, finance and banking, journalism, or secondary education (social science) take whichever of the following combinations is recommended for their field: History 120 and 121; History 121 and Political Science 110; or Economics 274 and Political Science 110. Other students also may elect these combinations instead of History 170. For general education group-filling purposes a student taking one of these combinations may elect to apply either of the courses to the American history and government requirement and the other to the general education category in which the course is regularly listed.

Transfer students desiring to offer work from other institutions to satisfy all or part of this requirement should consult the History Department.

Biological Science. Six semester hours are required from one or more of the following departments:

Bacteriology 121	(3)	General Bacteriology
Bacteriology 311	(2)	Sanitation and Public Health
Bacteriology 321	(3)	General Microbiology
Bacteriology 322	(1)	General Microbiology Laboratory
Bacteriology 331	(5)	Microbiology
Botany 101	(3)	Plant Biology
Botany 105	(3)	The Plant Kingdom
Botany 205	(2)	Field Botany
Botany 276	(3)	Heredity
Botany 376	(3)	Genetics
Botany 450	(3)	Plant Ecology
Botany 460	(2)	Conservation of Natural Resources
Zoology 105	(3)	Animal Biology
Zoology 212	(4)	Invertebrate Zoology
Zoology 213	(4)	Vertebrate Zoology
Zoology 261	(3)	Elementary Human Physiology
Zoology 262A	(2)	Anatomy and Physiology Laboratory
Zoology 262B	(1)	Anatomy and Physiology Laboratory
Zoology 263	(1)	Elementary Physiology Laboratory
Zoology 276	(3)	Heredity
Zoology 315	(3)	Natural History
Zoology 376	(4)	Genetics

English Composition. Six semester hours are required for the majority and four semester hours for the group selected by testing for English 115 or 116, or three semester hours for Honors Program students in English 118.

Health. Health 130, two semester hours, **must be taken during either semester of the freshman year.** For students presenting evidence of superior preparation, the requirement may be waived. This is determined by an examination prepared by the Department of Health and Safety Education. Students must register for the class and then petition for the examination. Nurses who complete Nursing 202 and 212 are also exempt.

Humanities and Fine Arts. Six semester hours are required from one or more of the following departments:

Art 101	(2)	Introduction to Art
Art 108	(2)	General Art
Art 110	(2)	Design in Everyday Life
Art 306	(3)	Art History and Appreciation
Art 307	(2)	Contemporary Art
Art 308	(2)	American Art
Art 403	(2)	Ancient and Primitive Art
Art 405	(3)	Medieval and Renaissance Art
Communications 101	(2)	Introduction to Mass Communications
Dramatic Arts 121	(3)	Voice, Diction, and Interpretation
Dramatic Arts 315	(2)	Introduction to the Theatre
English 250	(3)	Introduction to Literature
English 252	(2)	Introduction to Poetry
English 253	(2)	Introduction to Drama
English 254	(2)	Introduction to Biography
English 260	(3)	Masterpieces of American Literature

English 270 (3) Masterpieces of English Literature
English 277 (4) Survey of American Literature
English 282 (2) Shakespeare
English 332, 333 (3 ea.) The English Novel
English 335, 336 (2 ea.) The American Novel
English 338 (3) The European Novel
English 341, 342, 343 (2 ea.) English and American Drama
English 350 (2) The Bible as Literature
English 355, 356 (3 ea.) World Classics
English 359 (2) The Short Story
English 361, 362 (4 ea.) American Literature
English 366 (2) Modern Poetry
English 367 (2) English and American Folk Ballads
English 371 (3), 372, 373, 374, 375 (4 ea.) English Literature
English 380 (5) Twentieth Century Literature
English 381 (3) Chaucer
English 382 (3) Shakespeare

Humanities 101 (3) An Introduction to the Humanities

Music 101 (3) Introduction to Music
Music 103 (2) Survey of Music Literature
Music 484, 485 (3 ea.) History of Music

Philosophy 380 (2) Survey of Philosophy
Philosophy 381 (2) Deductive Logic
Philosophy 385 (2) Ethics: Plato to Dewey
Philosophy 474 (2) Types of Religious Philosophy

*French 441, 442 (3 ea.) Survey of French Literature and Culture I, Origins to 1800
*French 443 (3) Survey of French Literature and Culture II, 1800 to present.
*French 444 (2) Survey of French Literature and Culture, 20th Century

*German 441 (3) German Literature from the Beginning to 1700
*German 442 (3) German Literature in the 18th Century
*German 443 (3) German Literature in the 19th Century
*German 444 (3) German Literature in the 20th Century

*Greek 301 (4) Introduction to Greek Literature

*Italian 431, 432 (3 ea.) Masterpieces of Italian Literature

*Latin 441, 442 (3 ea.) Survey of Latin Literature and Culture

*Portuguese 431, 432 (3 ea.) Masterpieces of Brazilian and Portuguese Literature

*Russian 441, 442 (3ea.) Survey of Russian Literature to 1900

*Spanish 351 (2) Hispanic Civilizations
*Spanish 441 (3) Survey of Spanish Literature
*Spanish 451 (3) Survey of Hispanic-American Literature
*Spanish 454 (3) Hispanic-American Novel
*Spanish 470 (3) The Narrative of the Golden Age

Speech 102 (2) Introduction to Public Speaking

Physical Education. Two semester hours or the equivalent are required. One-half credit hour should be taken each semester of the freshman and sophomore years. (The transfer equivalent is based on class hours of activity and not necessarily on credit hours.) Exceptions: (1) Students majoring in and completing the course in engineering science together with requirements for a U.S. Air Force commission are not subject to the physical education requirement, (2) Engineering science students who withdraw from the aerospace studies program after two years are exempt from one semester hour of physical education.

Any 100-series course in physical education will count toward satisfying general education requirements in physical education.

*These courses have prerequisites.

Physical Science. Six semester hours are required. Courses must be selected from one or more of the following departments.

Chemistry 100 (2) Elementary College Chemistry
Chemistry 101 (5-4) Introductory Inorganic Chemistry (for family living, nursing, and related fields)
Chemistry 104 (1) Elementary Chemistry Laboratory
*Chemistry 105, 106 (4 ea.) General College Chemistry
*Chemistry 111 (5) Principles of Chemistry
*Chemistry 112 (5) Principles of Chemistry
*Chemistry 151 (5) Introductory Organic Chemistry (for family living, nursing, and related fields)

Geology 101 (2) Introduction to Geology
Geology 102 (1) Introduction to Geology Laboratory
Geology 103 (3) Life of the Past
Geology 111 (4) Physical Geology
*Geology 112 (4) Historical Geology
Geology 306 (3) Land Forms and Their Origin

Physics 100 (3) Essentials of Physics
*Physics 105, 106 (3 ea.) Technical Physics
Physics 127 (3) Descriptive Astronomy, "The Solar System"
Physics 137 (3) Weather and Climate
Physics 177 (3) Physics of Light and Photography
*Physics 201, 202 (4 ea.) General College Physics
*Physics 211, 213 (4 ea.) General Physics: Classical (designed primarily for physical science, chemistry and engineering majors)
*Physics 212, 214 (1 ea.) General Physics Laboratory

Religion. Two semester hours in religion are required for each full-time registration at B.Y.U. up to a total of sixteen semester hours. Part-time students are required to complete one semester hour in religion for each eight hours carried at B.Y.U.

A. **Freshmen and transfer students commencing their first year at B.Y.U. are required to take the following courses:**
Religion 121, 122. Introduction to the Book of Mormon. (Returned missionaries and upper division transfer students may have the option of taking Religion 421-422, History and Teachings of the Book of Mormon, in lieu of Religion 121-122.)

B. **Sophomores and transfer students who have completed one year at B.Y.U. may choose four hours from the following courses to satisfy the religion requirement:**
Religion 211, 212 Introduction to New Testament
Religion 230, 231 The Gospel in Principle and Practice
Religion 232, 233 Missionary Approach to the Gospel
Religion 234, 235 Missionary Approach to the Gospel in French
Religion 236, 237 Missionary Approach to the Gospel in German
Religion 238, 239 Missionary Approach to the Gospel in Spanish
Religion 241, 242 Latter-day Saint History
Religion 261, 262 Introduction to Genealogy

C. **Juniors and seniors who have completed the required courses and transfer students who have completed the required courses and at least two years at B.Y.U. may choose four hours from the following courses to satisfy the religion requirement:**
Religion 301, 302 Introduction to the Old Testament and Its Teachings
Religion 324, 325 The Doctrine and Covenants
Religion 327 Introduction to the Pearl of Great Price
Religion 331, 332 Analysis of L.D.S. Teachings
Religion 365 Applying Gospel Principles in Scouting
Religion 401 Israel's Prophets

*These courses have prerequisites.

Religion 411, 412 Life and Teachings of Jesus; Paul and the Apostolic Church
Religion 421, 422 History and Teachings of the Book of Mormon
Religion 435 Mormonism and Modern Scientific Thought
Religion 438 Your Religious Problems
Religion 441, 442 History and Doctrine of the Church
Religion 451, 452 Christian History through the 15th Century; Christian History after the 15th Century
Religion 453 World Religions
Religion 454 American Religions and the Rise of Mormonism
Religion 460 Priesthood, Church Government, and Welfare

D. **Graduate courses (catalog numbers 500 and above) and philosophy courses do not satisfy the general education requirements in religion.**

E. **Devotional Credit.** Up to four hours of devotional credit may be used to fulfill the sixteen-hour religion requirement.

F. **Interpretation of University Policy on General Education Religion Requirements:**

1. **Freshman and Sophomore Registrations**
Although students at B.Y.U. may register for more hours in religion than required in the freshman and sophomore years and have the extra hours count as elective credit toward graduation, no more than ten hours in religion can be accumulated in the freshman and sophomore years toward the fulfillment of the University general education requirement in religion. A student must complete six hours toward the University requirement during the junior and senior years, part of which may be satisfied by devotional credit. (See "E" above.)

2. **Two-year programs,** such as those offered through General College, the College of Nursing, etc., include the University requirement of two hours' credit in religion for each semester in residence up to the maximum of eight semester hours. **Students enrolled in the fifth-year bachelor's degree,** such as engineering, will not be required to take religion in their fifth year. They will, however, be held for the religion requirements up through the completion of the regular four-year program.

3. **Transferees from L.D.S. Colleges.** Transferees from Ricks College and the Church College of Hawaii have their credit in religion appraised as if it had been taken at B.Y.U. so far as the above rule is concerned. (See Rule 1.) However, they may transfer no more than six semester hours for one year's work or no more than ten semester hours for two years' work toward the satisfaction of the general education requirements in religion. (See Rule 6 below.)

4. **Transferees from Colleges Which Accept Institute Credit.** Transferees from other colleges who present college transcripts of credit for Bible studies taken at L.D.S. Institutes of Religion will receive full credit for such courses as if they had been taken at B.Y.U. (See Rule 6 below.)

5. **Transferees from L.D.S. Institutes.** Transferees presenting institute credit in religion for courses other than those accepted by the adjacent college will be appraised as follows:

(a) The credit will be accepted on transfer only if the institute director certifies that the course was taken for college credit and was covered in accordance with college standards, and if the student does not present more than the maximum number of hours acceptable at B.Y.U. for a single semester when combining his college and institute credit. If the combined credit earned at a college and institute in a given quarter or semester exceeds that permitted at B.Y.U., the student must indicate to the Office of Admissions and Records the courses for which he desires to receive credit up to the prescribed limit. (See "Limitation on Credit in One Semester," University Catalog.) (b) A student may not transfer to B.Y.U. from institutes more than six semester hours for one year's work, more than ten semester hours for two years' work, or more than 14 semester hours for three years' work toward the satisfaction of the general education requirement in religion.

6. **Application of Transfer Credit to B.Y.U. Requirements. Acceptable transfer credit (as per Items 3, 4, and 5 above) may be used to meet the requirements of sixteen hours, but until the combined acceptable transfer credit and the B.Y.U. credit total sixteen hours, two hours must be taken for each semester in residence at B.Y.U.**

7. **Special Students.** Special students must present one hour of credit in religion for each eight hours of collegiate work completed as a special student. A special student should keep the ratio of one hour of religion for each eight hours of collegiate work completed as a special student and will be required to keep the ratio current at the end of every two-year period. For any term in which a student registers as a regular student (ten hours or more) he must present two hours of credit in religion.

8. **Summer School.** A student is not required to register for a course in religion in Summer School; however, if he intends to apply the summer work toward graduation, he must present one hour of credit in religion for each 8 hours of summer work and 2 hours of credit in religion for each full summer's work in which he registers for 10 hours of credit or more (until he completes the requirement of sixteen semester hours of credit in religion.)

9. **Definition of an Undergraduate.** A student will be considered an undergraduate, for the purpose of applying the above rules, until either he has received his undergraduate degree or has completed the requirements for graduation.

10. **Students Required to Study off Campus.** Students who do part of their collegiate work off campus under the requirements of their respective departments will be required to have two hours' credit in religion for such semesters as they are off campus only when the University provides opportunities for the taking of such courses.

11. **Bible Credit from Non-L.D.S. Colleges and Universities.** Transfer students coming to B.Y.U. and bringing Bible credit obtained from accredited non-L.D.S. universities and colleges will have this credit accepted by B.Y.U., and it will be applied as elective credit toward the total of 128 hours required for graduation. **However, regardless of the amount of Bible credit presented, it will not satisfy the general education requirement in religion, such transfer students being required to obtain two hours in religious instruction for each semester in residence on the B.Y.U. campus.**

12. **Requirement in Religion for Credit Completed at Extension Centers.** When credit which is completed at Brigham Young University extension centers is applied toward graduation, the student must have completed one hour of credit in religion for every eight hours of academic credit which is applied toward graduation. **No more than twelve hours of credit completed in religion at extension centers may be applied toward the total sixteen-hour requirement.**

Social Science. Five semester hours are required. Courses must be selected from one or more of the following departments:

Agricultural Economics 101	(3)	Principles of Agricultural Economics
Anthropology 101	(3)	Introductory Anthropology

Anthropology 111	(3)	Cultures of the World
Archaeology 200	(3)	Introduction to Archaeology
Archaeology 380	(3)	Old World Archaeology: Historic
*Child Development and Family Relationships 210	(3)	Child Development
CDFR 360	(3)	Achieving Success in Marriage
CDFR 361	(3)	Family Relationships
Economics 101	(3)	Survey of Economics
Economics 111, 112	(3 ea.)	Introduction to Economic Principles and Problems
Economics 241	(3)	Comparative Economic Systems
Economics 274	(3)	Economic History of the United States
Economics 358	(3)	International Trade and Finance
Geography 101	(3)	Introduction to Geography
Geography 120	(3)	Geography and World Affairs
Geography 231	(3)	Economic Geography
*Geography 441	(3)	Political Geography
Geography 450	(3)	North America
Geography 460	(3)	Europe
History 110	(3)	World Civilization I
History 111	(3)	World Civilization II
History 120	(3)	The United States to 1865
History 121	(3)	The United States since 1865
History 300	(2)	The Early Oriental History
History 304	(3)	Greek History and Civilization
History 307	(3)	Roman History and Civilization
History 311	(3)	History of the Middle Ages
History 312	(2)	Renaissance: Age of Transition
History 313	(2)	The Reformation: Age of Turmoil
History 323	(2)	Europe in the Twentieth Century
History 335	(3)	England
History 340	(3)	Asian Civilization
History 352	(3)	History of Latin America II
History 379	(3)	Contemporary American History (since 1920)
History 381	(2)	U.S. Intellectual and Social History to 1865
Political Science 105	(1)	Current Affairs
Political Science 110	(3)	American Government
Political Science 111	(3)	State and Local Governments
Political Science 150	(3)	Foreign Governments
Political Science 170	(3)	International Relations
Psychology 111	(3)	General Psychology
*Psychology 320	(2)	Psychology of Childhood
*Psychology 321	(2)	Psychology of Adolescence (Either Psychology 320 or 321—not both—may apply.)
*Psychology 322	(2)	Psychology of Adult Life
*Psychology 350	(3)	Introduction to Social Psychology
Recreation Education 337	(2)	Philosophy of Recreation
Sociology 111	(3)	Introductory Sociology
Sociology 112	(3)	Modern Social Problems
Sociology 125	(2)	Applied Sociology
Sociology 350	(3)	Introduction to Social Psychology
Sociology 389	(3)	Social Aspects of Mental Health

Revised Requirements for Freshmen Entering Fall Semester 1962 and Thereafter. Beyond the general education requirements outlined above, all students who entered B.Y.U. in the fall of 1962 and thereafter and all transfer students who will graduate in the Spring Commencement of 1966 and thereafter must complete an additional nine semester hours: either (a) training equivalent to twelve semester hours of college credit in one foreign language, three of which may be counted as general education credit in humanities (hence, a nine-hour addition); or(b) training equivalent to nine semester hours of college credit in specified mathematics, statistics, logic, and science courses. Completing either (a) or (b) will qualify a student for either the B.A. or the B.S. degree, whichever is appropriate in his area of study.

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* These courses have prerequisites.

The following courses have been approved to satisfy the mathematics, statistics, logic, and science requirements for a B.S. or B.A. degree:

MATH.

All college level courses numbered 105 or higher
Accounting 232
Accounting 332

STATISTICS

Statistics 221
Statistics 241
Statistics 330
Statistics 331
Statistics 432
Statistics 434
Statistics 531

LOGIC

Philosophy 381
Philosophy 382
Philosophy 473
Physics 300

SCIENCE

Bacteriology—all college level courses
Botany 110, 276, 321, 331, 376, 440, 450
Zoology 276, 230, 261, 330, 363, 365, 376 451
Chemistry—all college level courses
Physics 105, 106, 201 and all numbers above 201
Geology 111, 112 251, 252, 501
Psychology 374

At least one course must be selected from an area other than that in which the student is majoring. This means that all nine hours may come from a department other than one's own major area. The same course cannot satisfy the general education and also the mathematics, statistics, logic and science requirements.

Graduation Requirements

Total Credit. Students receiving a bachelor's degree from Brigham Young University must complete a minimum of 128 semester hours of credit.

Upper Division Credit. A minimum of 40 semester hours of upper division credit is required for a bachelor's degree.

Major Requirements. At the time of his graduation a student must have completed at least 20 semester hours in his major department and must have satisfied the departmental requirements for a major in that department. A minimum of 10 semester hours of B.Y.U. on-campus credit is required in the major field.

Minor Requirements. The student also must complete a minimum of 14 semester hours in collateral or minor subjects selected from courses approved for this purpose by the department or departments offering these courses and approved by the chairman of his major department.

A minor may be distributed over more than one department providing the major department specifies the content of such a minor from properly approved courses and has the program approved by the Curriculum Committee.

Double Major. Completion of two majors will fill the minor requirement, provided the second major encompasses a minor area.

Second Bachelor Degrees. The University does not give second bachelor degrees, except for some fifth-year engineering programs. However, a student may fill the requirements for another major as determined by the department concerned. Upon its completion a notation to that effect will be entered on his permanent record.

Residence Credit. In order to receive a baccalaureate degree a student must earn a minimum of thirty semester hours on the Brigham Young University campus at Provo.

Exception:

> If a student completes ten semester hours at Brigham Young University extension residence centers or at L.D.S. institutes of religion, twenty semester hours of work completed on the University's Provo Campus as a matriculated student will satisfy the residence requirement.

Grade-point Average and Credit Restrictions. In order to become a candidate for a baccalaureate degree, a student must obtain at least a 2.0 (C) cumulative grade-point average by the close of the semester preceding the semester in which he plans to graduate.

Not more than twenty-four of the total hours required for the baccalaureate degree may be correspondence credit.

Not more than eighteen hours of "D" grade credit may be applied toward graduation.

All incomplete grades must have been removed from the candidate's record at least **four weeks** prior to graduation.

General Education Requirements.	**Semester Hours**
American history and government	3
Biological science	6
English composition	6, 4 or 3
Health	2
Humanities and fine arts	6
Physical education	2
Physical science	6
Religion (2 hours per semester in residence)	16
Social science	5

(See section titled "General Education Program" for additional information.)

Bachelor of Engineering Science Degree. A candidate for the Bachelor of Engineering Science Degree must complete the required courses in one field of engineering and must have a total of 154 semester hours of credit.

Bachelor of Music Degree and **Bachelor of Fine Arts Degree.** A candidate for either of these degrees may obtain specific information as to requirements from the dean of the College of Fine Arts and Communications.

Junior English Proficiency Examination. Each student (unless he is eligible to take the foreign-student English Language Test) with more than sixty semester hours of credit who has completed his freshman composition requirement must take the Junior English Proficiency Examination during the first semester he is eligible for it. If he fails this examination, he must take a noncredit remedial course during the next semester he is a full-time student to correct his deficiencies before he may take the examination again. Passing this examination is a graduation requirement.

Since each student should have completed this examination requirement during his junior year, application for graduation will not be considered until the applicant has passed the Junior English Proficiency Examination. The examination is scheduled six times each year: the second Saturday of each semester, of each second term of the semester, and of each term of summer school. Special examination times may be arranged by the payment of an extra fee.

Foreign Student English Language Test. Foreign students who are in the United States and who are planning to return to their native countries after graduation may take the foreign-student English Language Test in lieu of the Junior English Proficiency Examination. The foreign-student English Language Test is administered on the second Saturday of each semester. Students desiring to take the test must register for it at the International Office during the week before the test.

The test consists of three parts: 1. Aural comprehension, 2. Reading comprehension, and 3. An essay on a given topic.

A student who fails the test must take English 101 or 102 or both before he is eligible to repeat the test. The test committee will determine which course or courses will be required.

Transfer Credit Which Completes Requirements for Graduation. If a student is to receive a degree from Brigham Young University but is completing his last academic work for that degree at an institution other than B.Y.U., the work at that institution must have been completed and official transcripts sent to the Records Office four weeks prior to the date of the Brigham Young University graduation exercise at which the student receives his degree.

Application for Graduation. Application for graduation is made by obtaining the appropriate form from the Office of Admissions and Records. Those students expecting to graduate in June should file the completed form with the Treasurer's Office not later than January 15 and candidates for August commencement, not later than March 15.

Attendance at Commencement. Each individual graduating from the University must attend the commencement exercises unless officially excused under the authority of the President of the University. The request to be excused must be presented in writing at least two weeks prior to commencement—extreme emergencies of either illness or death in the family being the only exceptions to this requirement. Students not officially excused from commencement will not receive their degree until they personally attend a later commencement.

Change in Graduation Requirements. The University reserves the right to change the requirements for graduation, and a candidate for graduation will be required to comply with all changes pertaining to the uncompleted portion of his course.

Exception to Graduation Requirements

All students who graduate in the spring of 1969 and thereafter will do so under the new requirements described above.

Until Spring Commencement 1969 all students who enrolled in college prior to Fall 1965 may elect to graduate under (a) the requirements shown above, (b) the requirements adopted in 1962, or (c) if they enrolled in college prior to Fall 1962, the 124-hour requirement program which began in 1960.

Scholarship Recognition

In acknowledgement of outstanding scholarship academic recognition is granted to certain bachelor's degree candidates. The announcement of such awards is made at the annual commencement exercises.

There are two designations in recognition of high scholarship: graduation "magna cum laude" and graduation "cum laude." These awards are made on the basis of excellence shown in work up to, but not including, the second semester of the senior year.

"Magna cum laude" is awarded those students who have earned at least sixty hours of credit at Brigham Young University and obtained an overall grade-point average of 3.80 or higher. "Cum laude" is awarded those students who have earned at least sixty hours of credit at Brigham Young University and obtained an overall grade-point average of 3.50 to 3.79.

The University will post and publish at the close of each semester of the regular school year the names of the students who have carried a minimum of 15 credit hours and earned a grade-point average of 3.5 or above in all classes. Those with grade-point averages of 3.8 and above will be given special recognition.

University Fees

The University reserves the right to change these figures without notice.

All students who register will be expected to pay tuition and fees prior to or at time of registration.

Approximately seventy percent of the cost of operating the University is paid from the tithes of the L.D.S. Church. Therefore, students who are Church members, or their families, already have made a monetary contribution to the operation of the University. To equalize this burden somewhat it is necessary to charge nonmembers a higher tuition. Even this higher total payment, however, covers only slightly more than half of the total educational cost of nonmembers of the Church.

Tuition and General Fees

Full-time Students (over 9 hours for undergraduate students; over 8 hours for graduate students)

	First Semester	Second Semester	School Year
L.D.S. Church Members	$175	$175	$350
Nonmembers	250	250	500

Part-time Students (9 credit hours or less for undergraduate students; 8 credit hours or less for graduate students)

(The tuition and fees paid as a part-time student do not entitle one to health service, student activity privileges or physical education suit or facility privileges.)

	L.D.S. Church Members	Nonmembers
Minimum tuition and fees	$ 33.00	$ 49.00
3 credit hours	46.00	68.00
4 credit hours	59.00	87.00
5 credit hours	72.00	106.00
6 credit hours	85.00	125.00
7 credit hours	98.00	144.00
8 credit hours	111.00	163.00
9 credit hours	124.00	182.00

All part-time students enrolled in one or more physical education classes must pay an additional $5.00.

The charge for noncredit courses or for auditing courses is the same as for credit courses. Noncredit courses taken by part-time students will be assessed on the basis of hours involved in lecture classes. For example, three hours of lecture a week would be considered three semester hours and would be charged for accordingly. Therefore, if a student were taking 8 credit hours plus a noncredit class involving two or more lecture hours per week, he would be considered a full-time student and must register as a full-time student. For courses in which no lecture hours are involved—for example, doctoral dissertations—tuition and fees will be handled on an individual basis, to be resolved later.

A fraction of an hour is counted as a full hour for assessing fees.

Registration in Evening Classes. (All daytime students will be required to pay an additional fee of $3 per credit hour for all hours carried under the Evening Classes program.)

Late Registration Fee

Late registration fees will be assessed all regular and special students for failure to complete registration on scheduled dates. No exception is made regardless of reason for being late.

1. First five regular school days following the scheduled registration date	$ 5.00
2. After the fifth day following scheduled registration date	10.00

Late fees for special students will be assessed at 50 percent of the rate for regular students.

Any student whose check is dishonored by his bank will be charged a handling fee of $5.00. If the check was for tuition, there will be an additional charge of the late fee in effect at the time the check is redeemed.

Refunds—College Students

In the event of withdrawal by a student, a refund will be made on the basis of a charge of $10 ($5 for a part-time student) even though the student does not complete registration or attend school, plus a per-day charge of two percent of the total tuition and fees paid or payable for the semester. The days charged for will be the school days beginning with the first day of the semester in which classes were held following the date on which the student registered, to the day on which the student reported his withdrawal to the Office of the Dean of Students, both days inclusive.

Late fees are not refundable.

Any refund due a student because of withdrawal from school will be made only by check, through the mail, two weeks from the date on which the student reported his withdrawal and surrendered his receipt or activity card to the Office of the Dean of Students.

No refund will be granted to a student who is requested to withdraw for scholarship or other causes.

No refunds will be made directly to an unmarried student under twenty-one years of age unless the student has the written permission of his parents or legal guardian.

Miscellaneous General Fees and Fines

Graduation fee, bachelor's degree (only 50% refundable if degree is not obtained)	$ 10.00
Graduation fee, master's or doctor's degree (only 50% refunded if degree is not obtained)	20.00
Graduation fee, for rental of cap, gown and hood for Commencement Exercises. Fee not refundable unless order is cancelled ten days prior to the current commencement exercises for which order was taken.	
Two-year terminal certificate	3.75
Bachelors	3.75
Bachelor of Engineering Science (Hood included)	7.50
Masters (Hood included)	8.50
Doctors (Hood included)	9.00
Late application for graduation (for those who apply after January 15 for June commencement and after March 15 for August commencement)	3.00
Graduate student service fee (for graduate students using University facilities without formal registration for University classes)	20.00
General College two-year terminal certificate	5.00
Identification photo	.50
Change of registration fee, for each change slip presented after the first week of each semester	1.00
Change of grade fee (unless the change is the responsibility of the University)	3.00

Examination, special equivalency, per credit hour (the maximum fee in any one subject shall not exceed $45)	7.50
Examination, repeat foreign language, for advanced degree	10.00
Duplicate activity card	1.00
Transcript fee ($1.00 for first copy on every order, plus $.50 for each additional copy)	1.00
Automobile registration and parking fee:	
One semester	6.00
Academic year	10.00
One term of Summer School	3.00
Both terms of Summer School	5.00
Traffic violation fines	Variable, according to violation
Thesis binding (4 copies)	11.00 to 13.00
Hold placed on credits for unpaid bill	1.00

Fees for Instruction in Music

Music 159p, 160p (30-minute lessons)	$ 55.00
Music 360p, 660p (45-minute lessons)	75.00

Refunds—Fees for Instructors in Music

Students who withdraw from registration for private instruction before the semester begins or during the first week of the semester will receive a refund of the total amount paid.

Students who withdraw after they have begun their private instruction will be charged 10 percent of the total fee, the full cost of each lesson taken or each lesson missed without notifying the teacher, and one-half the cost of the remaining lessons in the course.

Applications for refunds are made at C-550 Franklin S. Harris Fine Arts Center.

Fees for Private Instruction in Speech Correction

Students who desire individual faculty attention to speech and voice problems should register for Speech 105-p for one credit hour per semester. This course may be repeated for a total of four semester hours of credit. Payment of the fee in full is made only at the Treasurer's Office at or prior to the time of registration.

Speech and hearing rehabilitation service is given free of charge to regularly enrolled University students, provided they register for Speech 60 (Remedial Speech).

A list of instructors and schedule of fees may be obtained from the Speech Department.

Fees for Departmental Facilities and Services

Business Management 480 and 481	$ 3.00
CDFR 322	4.50
CDFR 422	9.00
English 15 (remedial English for juniors)	15.00
Food and Nutrition 340 (menu planning—meal service)	5.00
Food and Nutrition 110, 310	4.00
Health Education (driver education)	10.00
Homemaking Education 375, 377	2.00
Horticulture 112 (flower arrangement)	10.00
Housing and Home Management 370:	
Single students for one-half semester	70.00

Married students for one-fourth semester (All students must pay a $5.00 nonrefundable deposit prior to registration, the balance of the fee to be paid at the time of registration.)	35.00
Music 105, 107, 108 (piano)	5.00
Music 106 (group organ instruction)	10.00
Music 368, 370, 372 (woodwind, brass and string workshops)	5.00
Nursing 211, 212, 300 (fundamentals laboratory)	2.00
Physical Education 128 (Bowling)	10.00
Physical Education 166 (Canoeing)	7.00
Physical Education 195, 196 (Skiing)	15.00
Physical Education 543 (athletic conditioning and injuries)	6.00
Recreation Education 502 (camping)	10.00
Teacher Education 449, 479 (8-10 credit hours)	45.00
Teacher Education 449, 479 (4 credit hours)	25.00
Teacher Education 449, 479 (2 credit hours)	15.00

Teacher Education 449, 479 (Late fee assessed if application is completed after March 31 for Fall Semester and October 31 for Spring Semester, $10.) Students who notify the Student Teaching Office of cancellation of their request for a student teaching assignment later than one week prior to the first day of registration for the semester in which they had planned to do their student teaching will forfeit $20 of their student teaching fee. The $10 late fee is not refundable under any circumstances.

Rentals

Organ rental, one hour each day, per semester	$15.00
Harpsichord, clavichord rental, one hour each day, per semester	10.00
Harp rental, one hour each day, per semester	10.00
Piano rental, one hour each day, per semester	7.50
Each additional hour each day, per semester	6.00
Practice room without piano, one hour per day, per semester	4.50
Each additional hour each day, per semester	3.00
Recorder rental, per instrument, per semester, tenor and bass	3.00
Recorder rental, per instrument, per semester, alto	2.00
Recorder rental, per instrument, per semester, soprano	1.00
Locker rent (McKay Building and Eyring Science Center):	
1 semester	1.50
2 semesters	2.50
2 semesters and Summer Session	3.00
Key deposit	1.00
Replacement of lost key	1.00
Locker rent (for high school students, Education Building) school year	1.50

Fifty cents is returnable on return of key. If students share a locker, there is an additional 50c for each additional key issued. The 50c for each key is refunded on return of key.

Deposits

Physical education padlock deposit (Maximum refund is $2.50)	$ 3.00
Industrial education	1.00
Chemistry (Each laboratory class)	1.00
Civil Engineering 202, 203, 204	1.00
Aerospace studies (All AFROTC students. Fifty cents will be retained for flight insurance.)	14.00

Fees for Laboratory Schools

Secondary Schools

Senior high school—10th, 11th, and 12th grades	$50.00
Junior high school—7th, 8th, and 9th grades	40.00
Special students in secondary laboratory school, per unit	9.00

Secondary laboratory school students who register any time during the first semester shall pay the full year's fees.

Elementary Schools

Kindergarten to the sixth grade, for the full year	$30.00

Elementary laboratory school students who register any time during the first semester shall pay the full year's fee.

Late Fee in Laboratory Schools

A late fee of $2.00 will be charged all junior and senior high school students who register after the first week.

A late fee of $1.00 will be charged all elementary training school students who register after the first week.

Refunds—Laboratory Schools

A refund of $40.00 will be made to any senior high school student who withdraws during the first or second week of the first semester. A refund of $25.00 will be made to any senior high school student who withdraws after the second week and at or before the end of the first semester, but no refund will be made thereafter.

A refund of $30.00 will be made to any junior high school student who withdraws during the first or second week of the first semester. A refund of $20.00 will be made to any junior high school student who withdraws after the second week and at or before the end of the first semester, but no refund will be made thereafter.

A refund of $7.50 will be made to any elementary training school student who withdraws before the beginning of the Christmas holidays but no refund will be made thereafter.

No refund will be granted to a student who is requested to withdraw for scholarship or other cause.

The activity or receipt card must be surrendered when a refund is received.

Human Development Laboratories—Nursery School

(Preschool laboratory operated by the Department of Child Development and Family Relationships)

Fee per child, per semester	$30.00

Arrangements for registering students in the preschool laboratory should be made with the Department of Child Development and Family Relationships prior to payment of fees.

Student Financial Assistance

Scholarships, Awards and Grants

Scholarships and Awards. The University annually awards to high school graduates, to students transferring from other colleges or universities, and to Brigham Young University students a significant number of scholarships and awards. Recipients for scholarships are selected on the basis of demonstrated academic ability, character, leadership, and service activity. Candidates for awards are determined on these same bases, but also are considered on the basis of outstanding skills in speech, drama, music, art, dance, journalism, and foreign language. Students who have served in major and responsible positions of leadership in high school may be eligible to receive a leadership award.

A scholarship or award may be withdrawn at any time at the discretion of the Undergraduate Scholarships and Awards Committee if the recipient has failed to comply with the spirit and letter of the original terms of the scholarship or award.

All scholarships and awards are under the jurisdiction of a central committee, which alone has the authority to promise or grant an award. Official notification is mailed by the President of the University. Application should be made to the chairman of the Scholarships and Awards Committee.

Graduate students are eligible for scholarships, fellowships, and grants. For further information see the Brigham Young University Graduate School Catalog.

Grants-in-Aid

Through the Student Financial Aids Office the University awards a limited number of grants-in-aid to deserving students who have maintained a commendable academic record and who are in critical financial need. Grants-in-aid, as well as scholarships, are applied toward the payment of tuition and general fees.

Athletic Grants-in-Aid. The University also awards grants to selected athletes who qualify under the rules and regulations of the Western Athletic Conference. These grants may include part or all of the students' commonly accepted educational expenses as defined by the NCAA. A student athlete must meet either of the following recommendations:

a. If a freshman, he must have been rated academically in the upper two-thirds of his high school graduating class. For the first year such an award will be made for the entire school year.

b. If not a freshman, the student must be in good academic standing and not on probation. Such an award will be made on a semester basis.

Student Loans and Financial Aids

A student entering the University should have made financial arrangements to cover his school expenses and should have on hand enough funds to cover his obligations during at least the first semester. Limited funds are available to help students remain in school when financial emergencies have arisen and personal or family resources are not available.

Short-Term Loans. Short-term loans are available for emergency assistance for tuition, books, fees and other school expenses to full-time day students who have completed at least one quarter or one semester of successful work at B.Y.U. These loans are made in small amounts for immediate requirements. Repayment is required as quickly as possible and within the current semester. Such loans are intended primarily for students who will have sufficient resources to carry them through the year but who may not have these resources available early enough to make the required payments for tuition, books, fees, and other school expenses.

Church Student Loan Fund. The Church of Jesus Christ of Latter-day Saints sponsors a long-term loan program to assist students to continue their educational programs at B.Y.U. without interruption. Through this program loans may be made to worthy full-time students who have financial need for tuition, books, fees, and other school expenses in excess of savings, part-time earnings, or parental support. Loans may be made each academic year not in excess of $200 for freshmen, $400 for sophomores, $500 for juniors, $500 for seniors, and $500 for graduates. The maximum cumulative loan to any student cannot exceed $2,100. The student may be permitted to delay making repayment until after he discontinues his full-time status at B.Y.U.

Special Student-Aid Fund. Through the generosity of interested friends of B.Y.U., contributions have been made and a limited fund is available to aid deserving students who are in critical need of small amounts of money and who are unable to make repayment.

Application. Information regarding financial aids and application forms is available in the Financial Aids Office. Before aid is granted, each applicant will be interviewed and careful consideration will be given to his needs.

Student Employment

The Placement Center assists students in finding part-time employment, including help not only in placing them in positions on the University campus but also in finding part-time employment off campus and in finding work for board and room.

Students are encouraged not to attempt to earn their entire way through school. Such a program leaves little time for academic work (See scholarships). Furthermore, it is important to note that there is a limit on the number of hours which a student may work on campus.

Students needing employment are urged to register with the Placement Center as soon as possible after they arrive in Provo and are available for work. Need weighs most heavily in deciding who will receive leads for jobs. Hours available and possession of skills required by employers also are very important. Inasmuch as the number of students seeking part-time work is very high, those whose need is great are requested to report regularly at the Placement Center after filing their initial applications.

Students from foreign countries are required to obtain a work permit before they may accept employment. Such students may receive assistance from the foreign students adviser in obtaining the necessary permit.

Estimated Cost of Attending B.Y.U.

The expense of a year's study at Brigham Young University is surprisingly reasonable. It will depend a great deal on how much a student can spend or wants to spend. Basic minimum costs for a two-semester school year are as follows:

	L.D.S. Member	**Nonmember**
Tuition and fees	$ 350	$ 500
Books and supplies	100	100
Board and room	650	650
Personal expenses	120	120
	$1,220	$1,370

The average college expenses at public and private colleges for the nation are nearly $2,000. As a general rule private college costs are higher.

The estimate above does not provide for an automobile or clothing or transportation from distant points. The cost will obviously vary with married or single students and with young men and young women. For those doing their own housekeeping, either on or off campus, the cost of board and room can be materially reduced. Except for those who travel back and forth to their homes each day, an automobile is unnecessary and often a hindrance to proper study.

Student Housing

Learning to live harmoniously with other people under the right kind of living conditions plays a vital part in a college education. Students living in groups, working, studying, and enjoying recreation together gain much from each other. The conversations, good fellowship, and activities experienced in group living contribute to a person's whole development. Participation in democratic, self-governing living activities brings about a phase of education which can be gained in no other way.

The Office of Student Housing, established to assist students with their housing needs is located in C-141 Abraham O. Smoot Administration and General Services Building (ASB). All inquiries or administrative problems relating to housing needs should be referred to this office.

Campus Housing

Residence Hall Supervision

Campus housing is organized into five areas: Housing Administration, Deseret Towers, Helaman Halls, Apartment Living for Women, and Married-Students Housing. Each area is under the supervision of a person with professional training and experience for this type of work. Under these individuals, each residence hall is directed by a competent adult head resident who lives in the hall. (This may be a couple or a single woman.) Assisting each head resident are several senior residents—mature, advanced students—who live with the student groups. This gives each student a close contact with the residence hall staff. Each student is known personally by the staff and has someone immediately available to assist him with normal student problems. The residence hall staff carries out a residence hall program designed to provide each student with experiences in democratic self-government, development in acceptance of responsibilities that go with maturity and independence, and assistance in learning the art and science of human relationships in working and living with others. The staff assists the students to achieve a sense of belonging and to develop social competence through planned social and recreational programs. Head residents are available for general counseling, and they carry out the residence hall program in cooperation with other University academic services.

Applications

A student who plans to enroll at the University and live in a University residence hall should make inquiry to the Office of Student Housing about a year in advance. A housing application form will be sent to each inquiring student. A $10.00 application fee is required and should be enclosed with the completed application form when it is returned to the Office of Student Housing. A residence hall assignment and appropriate agreement forms are prepared on a basis of the date of receipt of the application form by the housing office and are mailed in the late spring and early summer.

Acceptance to University

The validating of any campus housing reservation is contingent upon the student's official acceptance and admission to the University. For admission to the University contact the Admissions Office, A-183 ASB.

Rental Agreements

A student planning to live in campus housing may expect to sign a rental agreement for the accommodations he will occupy. He should be prepared to live by the terms of this agreement once he has signed and returned it to the Office of Student Housing. Misunderstanding and financial loss can be avoided by a student if he will read and familiarize himself with the terms of the agreement before signing it.

Time of Arrival

Residence halls are not open to students prior to the announced opening date, which is usually the day before freshman orientation begins. The University does not advise students who are going to live in campus housing to arrive before that date. It is unwise for students with nothing to do to live in a hotel or motel room where there is no University supervision.

Apartment Living for Women

Housing for women is provided in 24 Heritage Halls. These are apartment-type buildings, and each apartment consists of a combination kitchen-dining-study room arrangement, three bedrooms and a bath. In addition, there are large living rooms, a recreation room, head resident apartment, and laundry and storage facilities in each building. Six girls occupy an apartment and live cooperatively, preparing their own meals. The apartments are completely furnished except for bedding, kitchen utensils, and dishes. The facilities are excellent and offer a high standard of living for college students. The approximate annual rate for these accommodations is $265.00. Food is purchased cooperatively by the residents of each apartment.

Help in the homemaking experiences of budgeting, buying, meal planning, and the selection, care and construction of clothing is available from specialists who are assigned to Heritage Halls. In addition, a specialist is available to assist students in planning social activities, developing recreational skills, and learning wise use of leisure time.

Each woman student desiring to live on campus should consider carefully the type of accommodations desired in view of her economic needs, time available for activities within her housing situation, and type of experience desired. Agreements are made for the academic year, and moving from one type of accommodation to another during the year is difficult to arrange.

Residence Halls for Men and Women

Board-and-room services for men and women are provided in Helaman Halls and Deseret Towers. Helaman Halls provide five halls for men and two for women; Deseret Towers provide three halls for men and two for women. Each hall contains student rooms, study rooms, reservation areas, central shower areas, adequate laundry and storage facilities, and a head resident apartment. These halls provide some of the best student living experiences offered on any university campus. The central buildings feature spacious cafeterias, dining rooms, snack bars, reception areas, offices, post offices, and vending facilities for the entire residence hall area. The approximate annual rate for a double room is $650 and a single room is $700.

Graduate Halls for Men and Women

Board-and-room services are provided for a limited number of single graduate men and women in Deseret Towers. These facilities are adequately equipped and provide for specialized needs of the graduate students. The approximate annual rate for these accommodations is $650 for a room with two occupants and $700 for a private room.

Apartments and Homes for Married Students

Family accommodations for 504 married couples and their children are provided in housing developments known as Wyview Village and Wymount Terrace. All units in married students' housing are assigned according to family sizes.

Wyview Village consists of 150 prefabricated homes purchased in 1956 from a federal government air base and moved to a site adjacent to the campus. There are 100 two-bedroom and 50 three-bedroom homes. The monthly rental rates are approximately $52.50 for the two-bedroom and $57.50 for the three-bedroom homes. In addition, each family pays its own electricity costs.

Wymount Terrace consists of 354 apartments and includes 24 residential buildings, an administration building, and three laundries. There are 90 one-bedroom units, 48 one-bedroom-study units, and 216 two-bedroom units. The monthly rental rates approximate $60.00 for the one-bedroom units, $66.00 for the one-bedroom-study units, and $70.00 for the two-bedroom units. In addition, each family pays for its heat and electricity. Each apartment has a balcony or porch overlooking the inner court play area. The units are furnished with a gas range, an electric refrigerator, and drapes for all windows.

This housing area fills a need of the Brigham Young University campus by providing attractive, modern, well-located, and competitively-priced housing units to further guarantee a pleasant school experience for its students.

Residential Housing

All students living off campus are required to live in University-approved housing. The Residential Housing Office maintains up-to-date listings of approved residences. This office is established to assist students upon their arrival in Provo to find suitable quarters if they desire to reside in the community.

Residential housing consists of apartments, rooms with kitchen privileges, board and room, sleeping rooms located in homes, and apartment houses in the community. These facilities are inspected by University representatives to see that they comply with established standards before they are approved for student occupancy. Through the cooperative efforts of landlords and the University, constructive action has been taken to raise the standard of student housing throughout the community. Before making any commitments for residential housing, students should make sure that the place in which they contemplate living has been approved by the University.

Rates

Rates for residential housing accommodations vary with the type of service provided; consequently only a general indication can be given here. Sleeping rooms rent from $20.00 to $30.00 per month. Apartment accommodations run from $20.00 to $40.00 per month per student. Board and room is available at the rate of $55.00 to $70.00 per month. Apartments for married students can be obtained at a rate of approximately $45.00 to $70.00 per month.

Deseret Towers, residence halls for men and women

Student Personnel Services

The Student Personnel Services offices are responsible for the following areas of University life: academic standards, counseling service, counselor for women, foreign students adviser, orientation, scheduling of University facilities, student health service, student organizations and social life, student publications, University standards, and veterans' affairs.

Dean of Students

The dean of students is director of Student Personnel Services. He initiates and recommends to the President and the Administrative Council needed policies and procedures in student life. He administers the program and coordinates the agencies at work on student problems.

Assistant Dean of Students

The assistant dean of students is responsible for coordinating advising services for the University. He provides leadership in planning for academic advising offered by faculty and other personnel, and is responsible for the office of Academic Standards.

Academic Standards

Students at Brigham Young University are expected to attain the following minimum grade-point average for their particular class in school:

Freshmen (students who have accumulated 31 semester hours of credit or less) are required to maintain a 1.75 (C-) grade average in order to be considered in good academic standing.

Sophomores, juniors, and seniors are required to maintain a 2.00 (C) grade average on all work beyond the first 31 semester hours of credit.

A student receiving a degree from Brigham Young University must have earned a cumulative grade-point average of 2.00.

Grade-point averages are computed on this basis: "A" equals 4 grade points; "B" equals 3; "C" equals 2; "D" equals 1; and "E," "WE," and "UW" each equal 0.

Categories of academic status are as follows:

Warning. A student whose B.Y.U. cumulative grade-point average is above 2.00 (C) but whose grade-point average for the last semester was below the minimum required (1.75 for freshmen and 2.00 thereafter) will receive academic warning.

Probation. A student whose B.Y.U. record does not meet the minimum requirement and whose record shows a shortage of grade points will be placed on academic probation. If a student is on academic probation, he may be subject to academic suspension at the end of any semester in which he fails to decrease his deficiency of grade points. Students who are on academic probation are expected to attend all classes for which they are registered and to meet every class period unless there are extenuating circumstances.

Suspension. A student will be suspended from the University if at the end of any probationary semester his cumulative record at B.Y.U. shows a shortage of 12 grade points from that required (1.75 for the first 31 semester hours and

2.00 for all remaining hours), and his current semester grade average is also deficient.

A student, whether on probation or not, will be subject to suspension if the Academic Standards Committee at any time determines that he is deficient in his academic achievements.

When a student is academically suspended from the University, the Academic Standards Committee may designate the fields in which his preparatory work must be taken in order for him to be readmitted.

Readmission. A student who has been suspended from B.Y.U. for academic deficiencies may qualify for readmission by complying with one of the following plans:

1. He may complete ten semester credit hours of home study or correspondence work with a grade of "C" or above in each course.
2. He may complete 15 credit hours or more taken all at one time at another institution of higher learning while earning a "C" grade average or above.
3. He may demonstrate to the Academic Standards Committee, during a personal interview when at all feasible, that he has had
    a. Equivalent preparatory work or activity of an academic nature since being suspended from B.Y.U., which may substitute for one of the two above-mentioned alternatives.
    b. That there were extenuating circumstances, such as major illness or serious accident, that prevented him from an equal opportunity with other students to compete academically.

A student will not be eligible for readmission until such time as he has demonstrated, through preparatory work as indicated above, that his grade-point deficiency is less than 12 grade points.

When a student has been readmitted to the University after a period of academic suspension, he must decrease his deficiency of grade points during the first semester or be subject to a second suspension.

A student who has only partially completed one of the plans for readmission may appeal to the Academic Standards Committee for readmission (i.e., a student who has completed six hours of home study). A decision by the committee to readmit or to deny readmission to a student is based upon the student's past record, test scores, and academic activities since being suspended. An exception is made for students who have been placed on academic suspension and then fulfilled a full-time mission for the Church. Such students are automatically readmitted.

Students who have been suspended academically a second time are denied further enrollment unless there were extenuating circumstances leading to the academic dismissal.

Tutoring Service

The student who feels that he might profit from special tutoring may obtain tutoring through the Division of Continuing Education, 234 HRCB. Standard individual and group tutoring fees are in effect.

Limited free tutoring is offered by members of service and honorary societies, and information pertaining to this tutoring may be obtained at the Academic Standards Office, B-202 ASB.

Counseling Service

The director of counseling has primary responsibilities in administering existing programs, providing training and education for counselors and advisers, and recommending policies and procedures in student counseling for the University.

The primary function of the Counseling Service is to help typical students make realistic decisions regarding their college careers. All entering students are encouraged to make an appointment with a counselor so that they may obtain his professional assistance. The Counseling Service provides services which include: (1) counseling—educational, vocational, and other personal problems; (2) testing; (3) occupational information. The Counseling Service also cooperates closely with those who supervise the study and reading skills program and the University tutoring program.

Counseling. It is the policy of the Brigham Young University Counseling Service to counsel with students who can be helped in a relatively short period of time (about one semester). It is not the intent to engage in long term and/or intensive psychotherapy, but rather to promote the adjustment of students within the University setting. A primary goal of counseling is to help maturing students accept responsibility for their own behavior.

Staff members of the Counseling Service are professionally trained in counseling psychology and related disciplines. Such training enables them to offer professional assistance with problems ranging from the selection of a major and a vocation to rather intense emotional disturbance. Students utilizing the service can be assured of reliable professional assistance and complete confidentiality.

Testing Services. Tests of achievement, ability, interest, and adjustment are given to all students who request them through a counselor. The data from these tests are used as a basis for counseling in educational, occupational, and personal problems. The testing service provides psychological test data for the use of counselors and faculty advisers, placement tests for various academic groups at the University, and assistance in the preparation, administration, and scoring of subject-matter tests as requested by various departments in the University.

Occupational Information Services. A comprehensive, current collection of essential occupational information is maintained in the Counseling Service library. Current catalogs of the major universities and technical schools are also on file. These materials are available to all students seeking information about particular vocational opportunities or information about employment in general.

Counselor for Women

The counselor for women is a member of the Student Personnel Services staff and the Counseling Service staff. She also works with the coordinator of student activities as adviser to student organizations. She is available throughout each day to assist students in solving personal and vocational problems.

Foreign-Student Adviser

Services of the foreign-student adviser are available to all students from countries outside of the United States. Alien students coming to the University must report first to his office, where they are expected to clear with him. This includes all types of visas.

Orientation

The orientation program of Brigham Young University is designed to assist new students in becoming acquainted with opportunities the University offers. The objective is to help students to integrate their skills and abilities with these opportunities.

In order to achieve this objective the orientation program focuses on the following areas:

a. Helping the student feel that he belongs; that he is a member of an institution interested in him as an individual and in his reaction to his total college environment religiously, socially, and academically.

b. Helping the student to learn more about himself, his goals, and his reasons for wanting a college education. Also, assisting him in making relationships with his fellow students satisfactory.

c. Helping the student to become receptive to his learning experience. Small discussion groups are used to help students develop healthy attitudes toward tools of learning and academic courses.

d. Information concerning registration procedures. Meetings with college deans and faculty advisers are an important aspect of the orientation program.

Religious Opportunities

Brigham Young University students have excellent opportunities for participation in religious activities. Among the means available are the following:

Brigham Young University Stakes. The Church is organized into a number of stakes. Each stake has several wards, with each ward having 200 to 300 members. The stakes and wards are organized specifically to provide students maximum opportunity for active participation in the program of the Church. Spiritual growth and the development of a strong testimony are goals fostered by the stake and ward organizations, whose programs are closely integrated at all levels with those of the University.

All single students living away from home establish their membership records in one of the wards of the stakes. Married students not living in University housing may attend the University ward or the ward in which they reside in the city. Membership records of students remain in the B.Y.U. stakes until they terminate their schooling at the "Y."

Devotional Assemblies. Devotional assemblies, held each Tuesday, enable students to hear messages of spiritual power and depth from carefully chosen Church leaders including many General Authorities of The Church of Jesus Christ of Latter-day Saints.

Student Health Service

The Howard S. McDonald Student Health Center accommodates the health services, comprised of a large out-patient clinic and in-patient unit for cases requiring bed care. The center functions 24 hours daily, 7 days a week during school terms and is available to any regularly enrolled full-time student whose fees include these services for the semester in which he is registered. Summer students are included. Medical care for all eligible students is limited to the facilities and personnel in the health center.

The following services are provided without extra charge:

1. Consultation with general physicians and specialists, by appointment, in the health center during regular clinic hours, 8:30 a.m. to 4:30 p.m. This includes a specialty clinic in orthopedics, general surgery, gynecology, internal medicine, and chiropody, ear, nose, and throat.
2. First-aid treatment at any time.
3. Immunizations as required for small pox, diphtheria, or typhoid.
4. Physical therapy as recommended by a health center physician.
5. Routine laboratory tests.
6. Seven days of bed care in any one semester in the health center, as recommended by a health center physician, after which a minimum charge of $5.00 per day is made.
7. Within the limits of its personnel and facilities and at the discretion of the director, the treatment of chronic disease suffered by students.

The following services require an additional charge and are supplied to the student at cost:

1. Meals while the patient is in the center.
2. Drugs on prescription of a health center physician.
3. Special diagnostic laboratory tests.

4. Special immunizations, i.e., poliomyelitis, influenza, etc.
5. X-rays other than "screening" films. The health center regularly employs the technical personnel to take x-ray films and a radiologist to interpret them. The student pays only the cost of the materials.
6. After-hour calls made by a physician in the clinic. The student pays $5.00 for each call. For house calls, the student pays $10.00.
7. Rental of crutches.
8. Immediate notification of parents or guardian by the health center when a student is taken ill.

Services not available are these:

1. Major surgery or off-campus hospitalization or medical care.
2. Dental service.
3. Obstetric service.
4. Eye refractions, glasses, prostheses, hearing aids, etc.
5. Routine physical examinations.

Student Health and Accident Insurance Program

To complement the services of the Student Health Center a supplemental insurance program is offered to all full-time students. This voluntary program is fully endorsed by the University and provides for a wide range of medical services at minimal costs. Students not otherwise protected by a health insurance plan are urged to accept this excellent plan specifically designed for our students. Full details are available from the health center.

Information regarding the student health and accident insurance program, along with information regarding insurance for dependents of married students, may be obtained from the Health Center.

Student Organizations and Social Life

Wilkinson Center serves as the hub of student activities on the campus. The program is organized to offer maximum opportunity for training in leadership and self-government and to provide a well-balanced program of individual and group development. Numerous student organizations have been set up to effectively realize such an objective. All student organizations on the campus conduct their affairs in accordance with a basic philosophy designed "to provide for a broad program of social, cultural, and recreational opportunities in which students are encouraged to participate." Membership is open to students who qualify and remain qualified according to the regulations set up by each organization. All students are urged to become affiliated with some group and thereby derive the benefits that only group experiences can bring. In order to coordinate organizational activity, to eliminate duplication of effort, and to lend continuity from year to year, supervision of student organizations is provided by the dean of students through the staff of Wilkinson Center.

Associated Students. Associated Students, an organization composed of all students who attend Brigham Young University, is presided over by officers elected by the students. It seeks to develop interest on the part of every student in those activities which contribute to a more democratic "Y" spirit and to provide opportunities for all students to participate in a well-rounded program of out-of-class activities. However, no student is allowed to participate in out-of-class activity if he is on disciplinary probation or carrying less than a ten-hour academic class load. Through this organization, student traditions are kept alive. All interclass and intercollegiate activities are fostered under its management, and through it the students publish the "Daily Universe," the student directory, and the "Banyan."

Associated Men. All men students registered are members of Associated Men, designed to promote specific interests of "Y" men and to foster a wholesome atmosphere on the campus.

Associated Women. Associated Women, an organization comprising all women registered in the University, aids and fosters all women's activities. The organization, advised by the counselor for women, is a member of the Western Division of the National Organization of Associated Women Students.

Class Organizations. Members of the four classes and the Graduate School are organized to develop common interests and class spirit as each class proceeds through the University and into the Alumni Association. Meetings of the classes are held periodically, with a limited number of social functions planned by class officers.

Executive Council. The Executive Council consists of the ASBYU president, vice-president of social activities, vice-president of student relations, vice-president of cultural activities, vice-president of finance, and vice-president of academics.

Student Assembly. The Student Assembly, a student elective body consisting of representatives from the entire student body and representatives from the classes, considers student body problems and recommends action for the welfare of the student body.

Inter-Organization Council. The Inter-Organization Council is an organization composed of representatives from student organizations to help govern organizational activities.

Honor Council. The Honor Council functions as a counseling body with subcommittees to promote the honor system to which all students are expected to adhere.

Geographical Organizations. Geographical clubs are organized to further social enjoyment and acquaintance among students from the same localities. They are particularly helpful to students during the early semesters of school, before these students have found their way into the other social activities of the campus. Such clubs also are helpful in maintaining a close bond of interest between the student and his home.

Professional and Departmental Organizations. The University encourages organizations which bring together persons of similar scholastic and professional interests and render their work more pleasurable and profitable. Each group fosters the activities of the department to which it is allied. Eligibility requirements are those of departmental affiliation and general scholarship as determined by the individual organizations. Fees are minimal. Each organization has a faculty sponsor.

Service Organizations. Several organizations, both for men and women, exist primarily to render service to the University. Eligibility requirements are established by each organization, and each has a faculty sponsor.

Student Publications

Three student-edited publications are sponsored to give students an opportunity to provide published works for the student body and the University. A full-time adviser of student publications helps students to develop their talents in addition to their classroom training.

Daily Newspaper. The "Daily Universe" is published daily during the regular semesters of the school year; the "Summer Universe" is published twice weekly during Summer School. More than 60 students staff the editorial, advertising, reporting, photographic, and business positions necessary to publish the paper.

Yearbook. The "Banyan," named for an oriental tree which symbolizes widening friendships found on campus, is the students' photographic record of each year. Valuable training in writing, editing, photography, art, and publishing are gained by the 50 members of the staff necessary to publish a 480-page book.

Directory. An annual directory of students and staff of B.Y.U. is published during the first semester each year. Student help needed in advertising sales and business operation is supervised directly by the adviser of student publications.

University Standards

The maintenance of standards of honor and integrity, of graciousness in personal behavior, of Christian ideals in everyday living, of a high standard of morality, and of complete abstinence from alcohol and tobacco is required of every student. The maintenance of standards as stated is applicable both on and off campus, at home or wherever the individual may be as long as he is in student status. Registration signifies a student's willingness to conform his life to these standards.

Any pronouncement of disciplinary measures made by the President of the University becomes a part of these regulations. Violations may make the offender liable to suspension or expulsion from the University.

Veterans' Service

All veterans should have their military experience evaluated for credit by applying to the Office of Admissions and Records.

War Orphans Education Program (P. L. 634). War orphans must bring a certificate of eligibility restricted to B.Y.U. before entering school under the War Orphan Program. This may be obtained by making application at the nearest Veterans' Administration Regional Office.

For further information concerning any educational benefits program for veterans, either currently existing or as it may become available, write to Veterans Coordinator, B-234 ASB, Brigham Young University, Provo, Utah 84601.

Veterans Readjustment Benefit Act of 1966

For information concerning educational benefits available to those who can qualify under the Veterans Readjustment Benefit Act of 1966 write to Veterans Coordinator, B-202 ASB, Brigham Young University, Provo, Utah.

Ernest L. Wilkinson Center at night

Special Academic Programs

Honors Program

Robert K. Thomas, Director, 436 JRCL
Richard D. Poll, Associate Director, 436 JRCL

The Honors Program at Brigham Young University is a University-wide effort to provide special opportunities and direction for superior students. In supporting such a program the administration and faculty of B.Y.U. have sought to integrate honors work in the various colleges and make possible a more flexible approach to the complete education of its best students.

The Honors Program is administered by a director, an associate director, and an executive committee who are directly responsible to the academic vice-president of the University. The executive committee sets explicit admission standards and advising procedures, keeps the curriculum and development of the program under constant review, and approves substantial individual variations from established policies. The directors carry out the policies of this committee, act as admissions officers, keep the program integrated with the colleges and departments involved, and represent the program to the University administration and faculty. Advising of students is handled by the directors, members of the executive committee, and departmental advisers from certain other departments which are not represented on the executive committee.

Objectives

The Honors Program seeks to assist students with unusual promise to achieve the maximum benefit from their university experience. Among the specific opportunities and challenges which are offered to superior students are the following:

1. Flexibility in programming insofar as course prerequisites, load limits, and general requirements are concerned.
2. Close association with teachers and other capable students in honors sections of many University courses.
3. An interdisciplinary approach which encourages broader, integrated learning.
4. Independent research and creative activity in the fields of primary academic interest.
5. Stimulating and enjoyable extracurricular contacts with teachers and other students in the program.

In general, the Honors Program hopes to enrich rather than shorten the superior student's academic experience.

Admission

Students seeking admission to the Honors Program may obtain application forms and instructions from the office of the director. Since the number entering the program each year is limited to approximately one hundred, early application is important. Prospective freshmen should have applications and supporting papers in the hands of the director at least five months prior to the opening of their first collegiate term; only in exceptional cases can applications filed during the summer be considered for fall registration.

Those applying must show unmistakable evidence of academic promise on the basis of tests, grades, and recommendations. Special consideration is given to those who include scores on National Merit, College Board, ACT, or similar tests as part of the application.

Candidates are screened by the directors, executive committee, and staff of the Honors Program, with the assistance of the B.Y.U. Counseling Service. While most applicants are prospective freshmen, a student, B.Y.U. or transfer, may enter the program at any time prior to the first semester of his junior year.

Scholarships

While the majority of participants in the program hold academic awards of one kind or another, thirteen honors scholarships are available each year to especially well-qualified applicants. These carry a stipend of $450 and are renewable for four years. To be considered for one of these, a student must file an application to enter the Honors Program along with a general application for scholarship aid.

Registration

Registration for honors students will follow the established University procedure each semester with the following exceptions:

1. Honors students register during the first day of registration.
2. They obtain class cards for honors sections from the director of the program rather than from the departments involved.

Instructors for honors sections are carefully selected, and the size of these sections is kept small enough to allow the teacher to give personal direction to each student.

Advisement

Each student in the Honors Program is assigned to a faculty adviser prior to his first semester's registration. If he has selected a major field, the adviser will be in that or a closely related field; however, it is not necessary to designate a major on entering the program, and changing the major after admission is permissible.

It is the student's responsibility to meet with his adviser prior to or in connection with each registration and as frequently on other occasions as his academic or other needs require. He will also be invited to meet with the director or associate director of the program from time to time during his University career, and he is encouraged to counsel with them when he has a problem in connection with the program.

Course Criteria

The following criteria have been established for honors courses whose primary function is to satisfy the **general education requirements** of the University:

1. General education for nonmajors rather than accelerated coverage for majors or minors.
2. No specialized prerequisites beyond admission to the Honors Program.
3. Admission restricted to students in the Honors Program except that other students with high academic records may be admitted with the written permission of the instructor if space is available.
4. Differentiation from nonhonors courses primarily in organization and method rather than in gross work load required of the student.
5. Grading so that work of comparable quality receives the same grade in honors as in corresponding nonhonors classes.

The following criteria have been established for honors courses whose primary function is to satisfy **departmental requirements:**

1. Accelerated coverage or more extensive coverage for majors, minors, or others with a special interest in the subject.
2. Admission by prerequisites or departmental screening.
3. Grading so that work of comparable quality receives the same grade in honors as in corresponding nonhonors classes.

It being recognized that uniformity of standards is very difficult to obtain in a program involving several dozen departments and teachers, students in honors sections are encouraged to discuss with their teachers what may appear to be deviations from the above criteria and to bring what seem to be particularly serious problems to the attention of the directors.

Additional information regarding honors work at B.Y.U. is available in a brochure which may be obtained by writing to Honors Program, 436 JRCL, Brigham Young University, Provo, Utah.

Prelegal Course

There is no single prescribed prelaw program. A student may major in any one of several fields as basic preparation for law school. The prime requisite of a successful lawyer is a well-disciplined mind. He must be capable of embracing complex situations—identifying subtle distinctions and appraising arguments. He also must be able to weigh opposing considerations and be capable of sustained effort over long periods of time. To produce such a person, the college schedule should include courses intended to expand the mental powers of a student to the utmost and to bring about precision of thought.

The following important advice given by a leading law school may well be noted by prelegal students:

"Few ideas are more fallacious or harmful than the notion that it is possible to dawdle through high school and college and then make the adjustment to higher standards promptly upon entering the professional school. Essential habits of concentration and effective methods of study must be acquired and developed during the prelegal years."

In addition to the courses in general education prescribed by the University, it is suggested that a satisfactory prelegal course might be selected from the following fields: English, political science, history, economics, accounting, psychology, speech, sociology, and mathematics.

Because of the growing tendency of law schools either to recommend or demand that the entering student have a B.A. or B.S. degree, the prelegal student should plan his freshman and sophomore programs so that he may continue working to obtain a bachelor's degree.

Lyceums and Forums

Almost since its founding, Brigham Young University has been bringing to its students distinguished men and women in arts and letters. The lyceums are evening programs of cultural value. Forum assemblies, held each Thursday morning, feature speakers and artists who can offer students a better understanding of our contemporary civilization. During the 1964 and 1965 Summer Sessions and the 1964-65 and 1965-66 regular school years, the following were scheduled for the lyceum or the forum series:

Mortimer J. Adler	Lecturer
Bach Aria Group	Julius Baker, flute; Robert Bloom, oboe; Eileen Farrell, soprano; Norman Farrow, bass-baritone; Bernard Greenhouse, cello; Jan Peerce, tenor; Oscar Shumsky, violin; Carol Smith, alto; Paul Ulanowsky, piano.
Teresa Berganza	Metropolitan Mezzo-Coloratura
Edgar Bergen	Stage, Screen, and Radio Personality with Charlie McCarthy
Brothers Four	Vocal Ensemble
Art Buchwald	Author, Journalist
Joe Callaway	Actor, Director, and Drama Critic
Michael Cannon, two appearances with Schoenfeld Sisters (summer)	Pianist
Chicago Symphony Orchestra	Jean Martinon, Conductor
Winston S. Churchill	Author, Journalist

John Ciardi	Poet, Teacher, Editor
Cleveland Orchestra	George Szell, Conductor
Walter Dowling	Former Ambassador to West Germany
Allen Drury	Author
Philippe Entremont	Pianist
Byron E. Eshelman	Chaplain of San Quentin
George Gibson, two appearances (summer)	Bass-Baritone
Leona Gordon, two appearances (summer)	Soprano
H.M.S. Pinafore	Tyrone Guthrie Production
Leon Harris	Author
Lorin Hollander	Pianist
Hart String Quartet, five appearances (summer)	Renato Bonacini, Bernard Lurie, David Schwartz, David Wells
Kingston Trio	Vocal Ensemble
Jamie Laredo	Violinist
Max Lerner	Author, Teacher, and International Affairs Expert
Margery MacKay, two appearances (summer)	Mezzo-Soprano
Dame Alicia Markova	Prima Ballerina
Clifton Matthews, two concerts, and an appearance with the Hart String Quartet (summer)	Pianist
Kenneth McFarland	Educational Consultant
Robert McFerrin, five appearances, two with California Jubilee Singers (summer)	Metropolitan Opera Baritone
Marina Mdivani	Pianist
Ashley Montagu	Lecturer
Fergus Montgomery M.P.	Lecturer
Robert Munns	Organist
Marilyn Neeley, two appearances (summer)	Pianist
Bob Newhart	Comedian
Willem Oltmans	Political Observer, Editor
Peter, Paul, and Mary	Vocal Ensemble
Pittsburgh Symphony Orchestra	William Steinberg, Conductor
Presti and Lagoya	Guitarists
Don Scaletta Trio	Jazz Ensemble
Harold C. Schonberg	Music Critic of the New York Times
David Schoenbrun	Author and Foreign Correspondent
Alice Schoenfeld, two appearances (summer)	Violinist
Eleonore Schoenfeld, two appearances (summer)	Cellist
Michael Schneider	Organist
Daniel Shafran	Cellist
Harlow Shapley	Physical Scientist
Howard K. Smith	News Commentator, Author
Madame Ginette Spanier	Lecturer, Directress, House of Balmain
Charles P. Taft	Lawyer, Statesman
The Three D's	Vocal Trio
Virgil Thomson, two appearances (summer)	Composer, Critic
Countess Alexandra Tolstoy	Lecturer
Louis Untermeyer	Poet, Editor, Critic
Utah Artists Concert	Norma Pocock, soprano; Roland Christensen, tenor; David Dalton, violist; Norene Emerson, pianist
Utah Symphony Orchestra, four appearances	Maurice Abravanel, Conductor
Sander Vanocur	White House Correspondent
Shirley Verrett	Mezzo-Soprano
Ion Voicu	Violinist
Baroness Maria von Trapp	Lecturer
Hannah Watt and Roderick Lovell	Theatrical Personalities
Jerome Weisner	Dean of Science at M.I.T.
Meredith and Rini Willson	The "music man" and his wife

General University Services

Objectives

> . . . seek ye out of the best books words of wisdom:
> seek learning even by study, and also by faith.
> —Doctrine and Covenants, Sec. 88, v. 118

David O. McKay, President of The Church of Jesus Christ of Latter-day Saints, has stated these as the objectives of a student at Brigham Young University. As a student one should:

1. Become aware of one's own ignorance and gain humility in contemplating how infinite God's creations are.
2. Increase one's knowledge, selecting those facts and truths which will be most valuable and realizing that exact and definite knowledge is always of the greatest possible value and importance to every individual who has the moral courage to use it rightly.
3. Learn that acquisition of knowledge will result only from personal effort, not from superficial study or shirking.
4. Realize the responsibility one has, because of free agency, of individual choice. The opportunity for rising above the plane of animal existence is open to all who will choose it.
5. Come to a knowledge that the purpose of life is not mere existence or pleasure or fame or wealth, but the perfection of humanity through individual achievement under the guidance of God's inspiration.

It has been the aim of the University to encourage students to realize these objectives, objectives closely allied to, and derived from, the basic philosophy of Mormonism: man, the son of God, is a free agent with unlimited possibilities for eternal development under God's guidance; a never-ending search for truth and for an understanding of the truth should be among the activities of those who aspire to perfection.

Objectives Formulated by the Faculty

The objectives which Brigham Young University has set for itself derive from the Latter-day Saints' concept of the nature of man, which places man as the offspring of God and as a free agent with unlimited possibilities for eternal development under leadership of his Heavenly Father. The noblest goals in eternal life may be achieved only when men work together, keeping the doors of opportunity open for everyone, and when they act under a sense of obligation to share with their fellowmen the most inspiring vision of life's possibilities. Therefore, man must use all possible means of coming into possession of truth. As a result of this Latter-day Saint ideal the curriculum of Brigham Young University includes the revealed word of God, the humanities, the arts, the natural sciences, and the social sciences. Man's glory is his intelligence, by which he may discover and apply truth and ultimately master the universe.

The objectives of Brigham Young University, prepared by the faculty and approved by the Board of Trustees in 1959, are as follows:

Education at Brigham Young University is directed toward the development of the whole person, whose life is balanced by many interests and activities, integrated by a knowledge of divine revealed truth, and dedicated to the service of mankind. The University strives to provide an environment conducive to such growth and sets forth the following as its major objectives:

1. To provide an atmosphere congenial to the development of true Christian ideals in which students may develop faith in God, and obtain an under-

standing of the principles of the Restored Gospel and a desire and resolution to make its standards the guiding light of their lives in service to the Church and their fellowmen.

2. To help students obtain an understanding of the world around us—its natural and physical phenomena, its peoples and their problems, and its heritage of wisdom.
3. To promote scholarly research among faculty and students in order to advance the frontiers of knowledge.
4. To assist students in learning to think clearly and critically and to communicate effectively.
5. To foster an appreciation of literature and the arts and to stimulate participation in creative or expressive activity.
6. To assist students in preparing for professional or occupational responsibilities suitable to their interests, aptitudes and capacities.
7. To provide continuing educational training and services to off-campus individuals and groups.
8. To encourage social understanding and personal development in preparation for the responsibilities of family life, Church service, community leadership, and basic citizenship.

History of the University

Founding and Philosophy. Brigham Young University was established pursuant to a deed of trust executed by Brigham Young, President of the Church of Jesus Christ of Latter-day Saints, on October 16, 1875. That deed expressly set forth that the "pupils shall be instructed in . . . such branches as are usually taught in an academy of learning," and also "in the Old and New Testaments, the Book of Mormon and the Book of Doctrine and Covenants."

A group of seven persons appointed by President Young comprised the first Board of Trustees. They were Abraham O. Smoot, President of Utah Stake of the Church, which embraced all of Utah County, William Bringhurst of Springville, Leonard E. Harrington of American Fork, and Wilson H. Dusenberry, Martha J. Coray, Myron Tanner and Harvey H. Cluff of Provo, all prominent members of Utah Stake.

At a meeting November 22, 1875, the Board of Trustees organized the Academy. At that time the Timpanogos Branch of the University of Deseret had just been discontinued, and it was too late in the year to arrange a complete school year. Consequently the board decided to hold two preliminary terms of Brigham Young Academy. Warren N. Dusenberry, who had been principal of the Timpanogos Branch, was selected to become principal of the Academy. After conducting the first preliminary term, which ended April 15, 1876, he resigned to practice law.

Ten days later, President Brigham Young, acting for the Board of Trustees, requested Dr. Karl G. Maeser, a convert to the Church from Germany, to come to his office. "Brother Maeser," said the President, "I have another mission for you. We have been considering the establishment of a Church school, and are looking around for a man—a man to take charge of it. You are the man, Brother Maeser. We want you to go to Provo to organize and conduct an academy to be established in the name of the Church—a Church school."

A few days later, Dr. Maeser called at the office of President Young and said, "President Young, I am ready to go to Provo. What are my instructions?"

"Only this," replied the President. "I want you to remember that you ought not to teach even the alphabet or the multiplication tables without the spirit of God. That is all. God bless you. Goodbye."

Dr. Maeser accepted this all-embracing charge, believing that the ultimate good in education could be summed up in the words of the Master: "Be ye perfect, even as your Father in Heaven is perfect." In one of his memorable sermons, Dr. Maeser stated the real purpose of the school by saying, "Not by bread alone, neither for bread alone does man live. There are higher objectives yet to be attained, other truths to be learned, and greater work to be done."

Years later, consistent with that philosophy, the school adopted as its motto this revelation of the Lord: "The glory of God is intelligence."*

Administration of Karl G. Maeser. Karl G. Maeser served as principal of the Academy from April 24, 1876, to January 4, 1892, a period of 16 years.

He had received intensive training in the excellent German schools of his time. He was a graduate of the Dresden Gymnasium and of the normal schools of Friedrichstadt, Germany. At the time of his conversion to the Church, he was Vice-Director of the Budich Educational Institute at Dresden.

Neither Warren N. Dusenberry nor Karl G. Maeser had much academic assistance at the beginning of school. When Dr. Maeser began his teaching at Brigham Young Academy, he was principal and the sole teacher of the twenty-nine students, most of them from Utah County.

The old Lewis Building, which stood on the corner of Third West and Center Streets, was the first home of Brigham Young Academy. This building was later described by Justice George Sutherland of the United States Supreme Court, one of the Academy's first students, as being a "structure without beauty or grace or any other aesthetic feature calculated to invite a second look . . . . It consisted of one large room and a stage—both so utterly bare and gloomy as to make inappropriate any form of entertainment except tragedy."

By 1882 this building was found to be inadequate for the needs of the school, and additional rooms were built from funds provided by A. O. Smoot, Harvey H. Cluff, Myron Tanner, and W. H. Dusenberry. However, this structure was entirely destroyed by fire January 27, 1884. Temporary quarters were obtained, and the school continued with the loss of only one day of school. During the summer of 1884 arrangements were made with Z.C.M.I. for the use of the upper floor and part of the lower floor of its warehouse on University Avenue.

Members of the Board of Trustees were appointed by Brigham Young until his death in 1877, when the responsibility fell upon his heirs.

The transition of Brigham Young Academy into the University of the Church has been marked by periods of great financial distress. Brigham Young died before he had provided for the endowment of the institution. This left the school without any assured source of income.

In the early days of the school, when no funds for the budget could be found, the board actually considered closing the Academy. It was then that Professor Maeser and his faculty showed their loyalty by teaching for anything they could get, including agricultural products, which were accepted from students in lieu of cash tuition.

President A. O. Smoot of Utah Stake was equally loyal. In the winter of 1887, to bolster up a shrinking enrollment, he asked each member in attendance at a stake priesthood meeting to pay the tuition of at least one student at the Academy. On leaving before the close of the meeting, he told the priesthood assembled that they might name the sum he should pay and he would abide by the decision. Members of the Academy faculty readily responded to the call. One faculty member, who was teaching his first year at a salary of twenty dollars per month, paid a quarter's tuition for one student.

On June 8, 1888, President Wilford Woodruff organized a General Board of Education of the Church, consisting of nine members. This board directed the activities of the school, but the power of appointment of the Board of Trustees still remained with the heirs of Brigham Young until July 18, 1896, when, by the adoption of the Articles of Incorporation for the University, the right of appointment was granted to the First Presidency of the Church through the consent of the heirs of Brigham Young. By this action, the Church assumed the indebtedness of the institution and accepted the responsibility of maintaining Brigham Young University.

On January 4, 1892, the school was moved to what is now known as the Education Building, the first structure built especially for the University. Much of the $75,000 it cost was made available through the personal credit of President A. O. Smoot, a member of the Board of Trustees at that time.

Dr. Maeser's administration will be remembered primarily because of his masterful teaching. His legacy to the Church school system consisted of three ideals: (1) the acquirement of intelligence by academic studies; (2) the development of character; and (3) a reverence for the revealed word of God, together with a living testimony of the divinity of the message of the Church which he represented. He often stated that "no infidel" would go out from his school, and it is doubtful whether any did. His sermons were classics which lived with his students throughout their lives. He was the great spiritual architect of the school.

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*Doctrine and Covenants 93:36

Administration of Benjamin Cluff. Benjamin Cluff, a former student of Karl G. Maeser, served as president from January 4, 1892, to December 23, 1903. He was one of the first native Utahans to earn a college degree, having received it from the University of Michigan in 1890. He influenced many young men and women to go to larger universities in pursuit of higher learning. Some of them later became teachers at Brigham Young University.

His administration was effective in changing the school from one which was still largely a normal school, with a very small college department, to a university.

After 1892 President Cluff asked the Church authorities to provide another building to house the growing student body properly. As the Church was not prepared to furnish the money, Reed Smoot, chairman of the Executive Committee of the Board, took the initiative and secured a contribution of one thousand dollars each from Wilford Woodruff, George Quayle Cannon, Joseph Fielding Smith, Reed Smoot, Jesse Knight, Charles Edwin Loose, Alfred William McCune, Amanda Inez Knight, Stephen L. Chipman, and Jesse William Knight. The cost of the building exceeded ten thousand dollars, but Reed Smoot subscribed the additional amount to cover the expense. It was named College Building. Dedication was held in connection with commencement week in 1898.

The financial panic of 1893 further intensified the school's financial difficulties. Some of the real estate sold to clear part of the indebtedness had to be repossessed by the school, and $30,000 was supplied by the Church to be applied on its debts. President A. O. Smoot underwrote large notes for the school to keep it operating. On his death, the trustee-in-trust of the Church, in the interest of the heirs of the estate, agreed to underwrite all notes of the Academy bearing President Smoot's endorsement.

President Cluff was instrumental in founding an alumni association in June of 1893. He gave encouragement to student organization and activity. Early in his administration two school papers were begun; athletic sports such as football, basketball, and track were encouraged; and the school colors, blue and white, were chosen. He established the first summer school and added new departments and laboratories.

In 1894 the title of the head of Brigham Young Academy was changed from "Principal" to "President," and in 1903 the school became Brigham Young University.

In 1900 President Cluff sponsored a South American expedition to engage in archaeological study of Book of Mormon sites. While he was in South America, Acting President George H. Brimhall asked the authorities for a Church normal training school building with a gymnasium on the upper floor. Jesse Knight, a member of the Board of Trustees, volunteered a contribution of $15,000. The board promptly authorized the project. Other contributions were solicited with good results. The total cost of the Training School and Gymnasium Building was $35,000. The dedicatory service was held February 17, 1902.

Administration of George H. Brimhall. On April 16, 1904, after having acted as President of the University while Benjamin Cluff was in South America, George H. Brimhall was appointed President of Brigham Young University. Joseph B. Keeler was appointed as his first counselor and Edwin S. Hinckley his second counselor.

Dr. Brimhall was also a former student of Dr. Karl G. Maeser. He was a dynamic speaker and also a great molder of character. He continually stressed the fact that the primary purpose of the school was to make better Latter-day Saints.

The Missionary and Preparatory Building, later known as the Art Building and now as B.Y. High, was dedicated October 26, 1904. It cost $13,000, of which amount $9,000 was apportioned to four stakes: Utah, Alpine, Nebo, and Wasatch.

In 1904 the students and faculty began negotiations for the purchase of seventeen acres of land known generally as Temple Hill. This land, purchased from Provo City about 1907 at a total cost of $1,000, was the beginning of the upper campus. A survey of the land purchased showed that about one and one-half acres at the point of the hill was not included in the deed given by Provo City. The students and faculty members of the school voluntarily raised an additional $1,000 to pay for this land.

This purchase provided a place for the Maeser Memorial Building, the cornerstone of which was laid on Founder's Day, 1909. It was ready for occupancy the fall term of 1911. The structure and furnishings cost $130,000; the Knight family contributed $65,000, and other members of the alumni some $50,000. The remainder of the cost was met through the sale of Blue Bench Irrigation Company Bonds owned by the school.

The Women's Gymnasium was erected in 1913 and the Mechanic Arts Building in 1919.

On December 21, 1914, the late Jesse Knight made an endowment to the University of one hundred thousand dollars in six percent bonds. The interest payments on these bonds, together with the payments on bonds which have matured, have been placed at interest, and the cash credit of this account now represents approximately twice the amount of the original endowment.

During President Brimhall's administration, graduate work was introduced and the first master's degrees were conferred. The school spirit was furthered by the organization of the students into a student body. Printing of the school yearbook, "The Banyan," was begun, and a huge white "Y" was placed on the mountainside east of Provo.

Dr. Brimhall served until July 1, 1921, a period of 17 years.

Administration of Franklin S. Harris. Franklin S. Harris, a former student of the institution under President George H. Brimhall, was selected to succeed his former president. Dr. Harris had received his Ph.D. degree from Cornell University in 1911 and had served as an instructor in the Juarez Academy and Cornell University, professor of agronomy for the Utah Experiment Station, director of the School of Agricultural Engineering and Mechanical Arts, and director of the Utah Experiment Station at the Utah State Agricultural College. He had a worldwide reputation as a scientist.

Dr. Harris became president July 1, 1921, and served until June 30, 1945, a period of 24 years, the longest term of any president. During his administration, academic gains of great significance were made. The University was organized into five colleges: Applied Sciences, Arts and Sciences, Commerce, Education, and Fine Arts; and the Division of Religion and the Extension Division were established. The Graduate School was formally organized and a dean of the Graduate School appointed. The Heber J. Grant Library was completed in 1925, the Y Stadium in 1929, and during the last ten years of his administration a building program was begun which has been accelerating ever since.

It was President Harris who first envisioned the present expanded upper campus of the University and indeed who made it possible by his extensive purchasing of lands surrounding the original upper campus. It was also during his administration that all members of the Quorum of the Twelve became members of the Board of Trustees.

In 1935 two stories were added to the Mechanic Arts Building to provide additional classrooms and laboratories. The name was changed to George H. Brimhall Building. During 1935-36, a Stadium House on the west side of the football field was erected. In 1937-38, Allen Hall, a men's dormitory, and in 1938-39, Amanda Knight Hall, a women's dormitory, were constructed. These buildings accommodate 90 and 130 students, respectively. The construction of both buildings was financed by borrowing from the Knight Endowment Fund. The Joseph Smith Building was begun in 1939 and completed in 1941 as a project of the Church Welfare program. During 1943 the University acquired the National Youth Administration Building on the east part of the campus for use of the Mechanic Arts Department. In 1944, because of the acute housing problem created by the building of the Geneva Steel Plant, it was equipped to serve as a temporary dormitory for women.

Administration of Howard S. McDonald. Howard S. McDonald, the next president of the University, served from July 1, 1945, to October 30, 1949. Before being appointed to this position he had served as assistant superintendent of schools in San Francisco and later as superintendent of Salt Lake City schools.

Under his leadership the school experienced a major expansion. From 1946 to 1948 the temporary women's dormitory at the southeast end of the campus was remodeled into what is now known as Social Hall, containing classrooms and offices. During the same period Knight-Mangum Hall, a four-level structure adjoining the Social Hall on the west, was constructed. This building first provided housing and eating accommodations for 280 women. It now houses missionaries in the language training program. Because of the enlarged postwar student body, student housing facilities were greatly increased. In cooperation with the Federal Works program, temporary housing, known as Wymount Village, was constructed in 1946-47 near the eastern edge of the campus for 200 married veterans and their wives and for 350 single veterans. Also under the Federal Works program of aid to education, temporary-type buildings were provided in 1946-47, consisting of the Physical Plant Building, Public Relations Building, North Building, Industrial Arts Building, Wymount Dining Hall, and University Press. In 1948 the Speech Department was moved to the Upper Campus and housed in temporary buildings. Here the Brigham Young University broadcasting station, KBYU, was located. A central heating plant costing $200,000 was constructed in 1946.

Under President McDonald's direction the Eyring Science Center was begun and almost completed. Called by many educators the finest and most modern science building between the Mississippi and the Pacific Coast, it has four stories and contains approximately 150,000 square feet of floor space (practically the equivalent of the space of all of the other buildings of the University previously constructed). It is equipped with the finest facilities for study and research. Moreover, it is proof of the Church's sincere belief that there is nothing inconsistent between scientific truth and the teachings of the Gospel.

During his administration the planning and architectural drawings of buildings for the University were assigned to a University architect. The buildings and grounds were placed under the direction of a superintendent of buildings and grounds.

In the postwar era of expanding collegiate enrollments, Brigham Young University, under his direction, expanded at a much faster rate than many other universities of the country. The faculty was increased to meet the new need. The Graduate School and the Student Counseling Service were both reorganized. As was true with his predecessors, he upheld and perpetuated the spiritual ideals of the University's academic life.

Administration of Christen Jensen. Dr. Christen Jensen acted as President of Brigham Young University during 1939-40 (when Dr. Harris spent a year in Iran) and again from November 1, 1949, until the early part of 1951. His two periods of administration were characterized by an emphasis on scholarship and a meticulous observance of proper University standards. In an era of dynamic University problems, President Jensen directed an administration characterized by academic and administrative stability and sound judgment. Under his direction the Eyring Science Center was completed and dedicated on October 23, 1950; the plans for the new George Albert Smith Fieldhouse were approved, a drive for funds conducted, and its construction practically completed at a cost of over $1,000,000. It provides, in addition to athletic and physical education facilities, offices for faculty members in the College of Physical Education. The fieldhouse has a capacity of 10,650 persons.

Administration of Ernest L. Wilkinson. In 1950 Dr. Wilkinson was selected by the Board of Trustees as the new President. He began his period of service in February 1951.

After graduating from Brigham Young University, he was graduated from George Washington University Law School where he received his LL.B. degree. He then attended Harvard Law School where he obtained the degree of Doctor of Juridical Science. After graduation he accepted an appointment to teach at the New Jersey Law School as professor of law. Soon thereafter he was invited to become an associate in the New York City law firm of which the Hon. Charles Evans Hughes, later Chief Justice of the Supreme Court of the United States, was the senior member. Later, organizing his own firm in Washington, D.C., Dr. Wilkinson achieved a national reputation as a lawyer, climaxed by obtaining judgments of $32,000,000 for the Ute Indians, the largest judgments ever entered in the United States Court of Claims against the United States.

As a churchman he has served as a bishop in the New York Stake and as a member of the stake presidency in the Washington Stake, and he has represented the Church on the National Commission for Army and Navy Chaplains, which approves chaplains appointed to the armed forces of the United States.

In 1951 a Reserve Officer Training Corps unit of the Air Force was activated at Brigham Young University. The officers of this unit have been selected by the Secretary of the Air Force, with the approval of the President of the University. This unit is composed entirely of students regularly enrolled at Brigham Young University, and the same standards of conduct and living are required of them as of other students at the University. In accordance with an agreement with the federal government, a building was completed in October 1952, which serves as a permanent rifle range for the A.F.R.O.T.C.

During his thirteen years of service, the University experienced well over a 100 percent increase in enrollment. In 1953 the University became the largest church-related institution of higher education in the United States. The faculty witnessed an even larger proportional increase in numbers, and the five colleges, one school, and two divisions previously comprising the University were increased to eleven colleges, one school and one division: Colleges of Biological and Agricultural Sciences, Business, Education, Family Living, Fine Arts and Communications, General, Humanities and Social Sciences, Nursing, Physical and Engineering Sciences, Physical Education, Religious Instruction; Graduate School; and Adult Education and Extension Services.

Throughout his administration President Wilkinson insisted upon ever-higher standards of scholarship. Under his direction the curriculum underwent extensive revision to eliminate subuniversity or duplicating courses, to strengthen existing courses, and to add courses needed in the expanding college program.

A notable advancement in the academic program of the University resulted from the action of the Board of Trustees in authorizing programs leading to the Ph.D. and Ed.D. degrees. Between November 22, 1957, when the first doctoral degrees were authorized, and the present date approval has been given to fourteen departments for programs leading to the Ph.D. degree in twenty-six fields of study. Two departments offer work leading to the Ed.D. degree.

Among his most significant achievements was the organization on January 8, 1956, of a Brigham Young University stake of the Church. That stake has been divided into several stakes, and the original twelve wards have been increased to about four times that number of wards. Spiritual benefits of this program to students have been incalculable. One specific advantage is the providing of a spiritual adviser to every 300 or 400 students supplementing the regular University Counseling Service and offering a dual system of advising and counseling.

During the administration of President Wilkinson, the following new buildings and facilities were added to the University:

The Herald R. Clark Student Service Center, begun in July 1952, was completed and made available for occupancy in March 1953. The financing of this building was primarily from income of the Students' Supply Center over its years of operations. In the building was housed the Division of Adult Education and Extension Services.

A large building project was started July 1952 with the construction of 16 buildings making up what is known as Heritage Halls. These buildings, completely modern in every respect, house 972 girls. Six girls live together in an apartment, preparing their own meals and doing their own housework. There are ten apartments to a building. Occupancy of the first of the buildings was begun in March 1953. The entire project was completed and fully occupied by the fall quarter of 1953.

Eight new buildings to house women students were added to the original 16 buildings of the Heritage Halls group. The total project was completed in the summer of 1956 and was fully occupied for the fall quarter of that year. The addition of these eight structures brought the total accommodations for this type of housing for women to 1,548.

The Harvey Fletcher Engineering Laboratory Building, constructed in 1953 and added to in 1954 and 1955, is an H-shaped building having four wings with laboratory space for the Civil, Mechanical, Electrical, and Chemical Engineering Departments. The central core of the building consists of offices serving the needs of the teaching staff. In 1953 a temporary motion picture building with sound stage and related facilities was constructed. This building was equipped with modern animation and motion picture sound equipment for production of educational moving pictures.

The David O. McKay Building, a classroom building containing 104 offices and 31 classrooms and laboratories, was begun in March 1954 and completed in December of that same year. This building currently houses the College of Education, and the Departments of English and Languages. In the early spring of 1955 the Benjamin Cluff Plant Science Laboratory, with two connecting greenhouses, was completed. This structure is used by the Botany, Agronomy, and Horticulture Departments. The Howard S. McDonald Student Health Center was opened for use of all students enrolled at the University in the fall of 1955.

Construction of the Joseph F. Smith Family Living Center began in the fall of 1955 and was completed in December 1956. Housed in this structure are the College of Family Living, the College of Nursing, a nursery school, and the Departments of Psychology and Sociology. New housing facilities for married couples were added to the University housing projects in 1957. Wyview Village, a project consisting of 150 two- and three-bedroom homes for married students, was completed and fully occupied in the fall of 1957. Another project during 1957 was the conversion of the University heating system to a $2,000,000 high-temperature water system.

In the fall of 1958 five residence halls, known as Helaman Halls, were completed. This project consists of residence structures housing 1,170 and one central building with dining, recreation, and business office facilities. Two additional residence halls became part of this project in the fall of 1959, bringing the total number of accommodations up to 1,638.

A permanent building for the production of motion pictures was completed in the fall of 1958. It is located in the river bottom area a short distance from the main campus. In December of 1959 the William H. Snell Industrial Education Building, containing 60 rooms for offices, classrooms, and laboratories for the Industrial Education Department, was completed. At this same time an addition to the west end of the George Albert Smith Fieldhouse was readied for use.

During the summer of 1960, the Jesse Knight Building, which houses the departments of the College of Business, was completed.

An underpass located near the "Y" Bell Tower was built in 1961 to accommodate the pedestrian traffic between upper campus and the fieldhouse.

The four-level, X-shaped Abraham O. Smoot Administration and General Services Building was completed in the summer of 1961. Also completed in the summer of 1961 was the 1,000,000-volume J. Reuben Clark, Jr., Library Building which has five levels, two of them below ground.

The Alumni House, located at the brow of the hill near the main entrance to the campus, was completed in the fall of 1961. During this same period ground was broken for the Wymount Terrace housing project, which was completed in March of 1963. This project consists of three laundry buildings, an administrative office building, and 462 apartments currently housing 198 families, 1,006 single girls, and fourteen head residents.

The new Physical Plant Building, completed in September 1962, houses all the shops which deal with the maintenance and upkeep of the campus, custodial services, and the motor pool. Modifications and an addition to the central heating plant were undertaken in 1963 to handle the expanded building program on the campus.

Recently completed are the Franklin S. Harris Fine Arts Center and the Ernest L. Wilkinson Center, which were dedicated on April 3, 1965. Other new additions are the new all-steel stadium which seats 26,812 spectators; an addition on the east end of the fieldhouse; new seven-story Deseret Towers, a cluster of five residence halls and their adjoining dining hall which will house 1,350 students; the Stephen L Richards Building with three swimming pools and four gymnasiums; Dairy Products Laboratory; a biology laboratory building; and another extension to the heating plant.

Extensive remodeling of the Herald R. Clark Building has brought the entire Division of Continuing Education under one roof. The building is shared by Educational Media Services. The Joseph Smith Memorial Building also has been remodeled to accommodate large-screen closed-circuit television classes in its auditorium, and many new offices and classrooms have been added in the building.

Campus roads and walks have been expanded and improved and as of 1966 blacktopped parking areas accommodated 9,869 cars, including 2,698 at the new stadium.

Five new seven-level residence halls, begun in July of 1963, are due for completion in December 1964, along with a central building containing dining, recreation, and business office facilities. A dairy products laboratory is in the planning stages. Campus roads and walks have been expanded and improved and as of 1963 blacktopped parking areas accommodated 5,777 cars.

The University Today

Recent Developments in University Administration. Since the organization of The Church of Jesus Christ of Latter-day Saints, its leadership has been sensitive to the need of continuing intellectual and spiritual growth for all its members. To meet this need, Church educational policies have constantly been modified to serve more fully the youth of the Church.

In July 1953 all Church educational institutions were combined under one administrator and president who in turn was responsible to a board of education, which consists of The First Presidency and The Council of the Twelve, for the administration of Ricks College, an academy and elementary schools in Mexico, the L.D.S. Business College in Salt Lake City, and the institutes and seminaries of the Church, and to a board of trustees, consisting of the same General Authorities, for the administration of Brigham Young University. In announcing this unified plan The First Presidency said: "This great system of schools, institutes, and seminaries can become an even more effective instrumentality in equipping the youth of the Church with solid foundations to meet the challenge of modern living." It added that the Administrator and President, Dr. Ernest L. Wilkinson, "has surrounded himself with strong men to do a big job," and that "he will have at his service strength not only of these men, but of all the members of the Brigham Young University faculty."

In 1961 the title of the Administrator was changed to that of Chancellor of the Unified Church School System.

With the effectuation of the Unification Plan the administrative offices of the Church education were, to the extent then physically possible, established at Brigham Young University, making the University the mother institution for Latter-day Saint education. Upon completion of the Abraham O. Smoot Administration and General Services Building, the entire staff of the Church Educational System was moved to the Provo campus.

At that time the Chancellor and President, Ernest L. Wilkinson, was assisted by John T. Bernhard, administrative assistant; William E. Berrett, administrator of institutes and seminaries; Earl C. Crockett, academic vice-president of B.Y.U.; Harvey L. Taylor, vice-president in charge of student functions and education weeks for B.Y.U. and the junior college program; Ben E. Lewis, vice-president in charge of auxiliary services; Clyde D. Sandgren, vice-president and general counsel; Joseph T. Bentley, comptroller; and J. Elliot Cameron, dean of students. On matters of over-all policy the above officers meet as an Administrative Council for the purpose of advising the Chancellor and President and resolving mutual problems.

In January 1964 President Wilkinson resigned to become a candidate for the United States Senate, and Earl C. Crockett served as acting president. On December 3, 1964, Dr. Wilkinson was reappointed by the Board of Trustees as President of Brigham Young University and Chancellor of the Unified Church School System. These were separated on February 5, 1965, when Dr. Wilkinson was appointed President of Brigham Young University, and Dr. Harvey L. Taylor was appointed administrator of The Church of Jesus Christ of Latter-day Saints Church Schools. The term "Unified" was dropped. Under Dr. Taylor's administration are Ricks College; L.D.S. Business College; the Church schools in Mexico, South America and the Pacific Islands; and seminaries and institutes of religion.

Brigham Young University's Administrative Council now includes Ernest L. Wilkinson, President; Stephen R. Covey, administrative assistant and director of University Relations; Earl C. Crockett, academic vice-president; Ben E. Lewis, vice-president of Auxiliary and Communication Services; Clyde D. Sandgren, vice-president and general counsel; Joseph T. Bentley, comptroller; John T. Bernhard, faculty representative and dean of College of Social Sciences; J. Elliot Cameron, dean of students; William R. Siddoway, dean of Admissions and Records; Raymond E. Beckham, director, University Development; and during summers, Keith Oakes, director of Summer School.

A survey made during a recent semester provided the following information about the faculty:

31 were serving on general boards of the Church.
1 was a temple worker.
7 were stake presidents.
14 were serving in stake presidencies.
2 were stake patriarchs.
7 were serving as mission presidents.
2 were serving in mission presidencies.
70 were on stake high councils.
71 were serving in other stake positions.
53 were ward bishops.
63 were in ward bishoprics.
579 were serving in other ward positions.
48 were serving in elders' and seventies' quorum presidencies.

Academic Growth and Recognition. Brigham Young Academy as originally organized by Karl G. Maeser had three departments: the Academic, the Intermediate, and the Primary. Instruction was given mostly in the work of the lower grades, although a normal class was included in the Academic Department. Today the University offers a full university curriculum, and its credits are recognized and accepted to the same extent as those of other leading American colleges.

Brigham Young University is affiliated with the following educational associations:

American Association for Adult Education
American Association of Colleges for Teacher Education
American Association of Collegiate Registrars and Admissions Officers
American Association of University Women
American College Public Relations Association
American Council on Education
American Home Economics Association
American Library Association
The American School of Oriental Research
American Society for Engineering Education
Association of American Colleges
Department of Baccalaureate and Higher Degree of the National League for Nursing
Educational Films Library Association
National Association of Schools of Music
National Association of Student Personnel Administrators

National Commission of Accrediting
National Council of Family Relations
National University Extension Association
Utah Conference on Higher Education
Western Council for Higher Education in Nursing
Western Interstate Commission on Higher Education
Western Personnel Institute

In addition, Brigham Young University is fully accredited by the following organizations:

Northwest Association of Secondary and Higher Schools
American Association of Collegiate Schools of Business
American Chemical Society
Engineering Council for Professional Development
National Association of Schools of Music
National Council for Accreditation of Teacher Education for the preparation of elementary teachers, secondary teachers, and school service personnel, with the master's degree as the highest degree approved.
National League for Nursing
Utah State Department of Public Instruction in cooperation with the United States Office of Education for the training of vocational home economics teachers.

Growth of the Student Body. When founded in 1875, Brigham Young Academy gave elementary and high school work only. Over the ninety-one years of its existence it has become in terms of full-time equivalent students the largest university in Utah. At the present time it is experiencing a rapid growth, which, if continued, will soon make it one of the largest institutions of the West.

At the time of its organization in 1875 nearly all of the students came from Utah County and its environs. Its student enrollment began at 29. During the regular 1964-65 school year, there were on campus approximately 18,496 daytime students. This number combined with the enrollments of the Summer School, Evening Classes, and Laboratory Schools brought the total to 23,029 students. In addition from September 1964 to August 1965 there were 65,753 enrollments in the Division of Continuing Education.

The students registered during the last few years came from all the states of the Union, the District of Columbia, the Panama Canal Zone, and 57 foreign areas. Approximately 66 percent of the students are from outside the state of Utah, and this percentage is increasing each year. As in the days of Dr. Maeser, industry and thrift are encouraged. At the present time over 40 percent of all students are employed in earning part of their subsistence.

Membership in The Church of Jesus Christ of Latter-day Saints is not required for admission, although at the present time 95 percent of the students are members of the Church. The other 5 percent, as a condition of their continuance as members of the student body, are required to abide by the same standards of morality and integrity as other students.

University Library

The J. Reuben Clark, Jr., Library contains the library collection, which includes approximately 600,000 bound volumes, fifty thousand pamphlets, and an extensive collection of titles on microfilm and microcards. A good selection of professional journals and other current periodicals as well as local, regional, and national newspapers is also available.

The library is a depository for United States, United Nations, Mexican, and Canadian government documents and regularly receives publications of state and local governments. The general library facilities are available to students, faculty, alumni, and other interested persons. Regularly enrolled students present their activity cards to borrow books. Others may obtain a permit from the circulation librarian. The library is open during the college year from 6:45 a.m. to 10:00 p.m. Monday through Friday, and from 9:00 a.m. to 6:00 p.m. Saturdays. Vacation hours, when school is not in session, are 8:00 a.m. to 5:00 p.m. Monday through Friday; it is closed vacation weekends and holidays.

The general collection and subject reference materials are available on open shelves on four of the five levels—two below and two above the ground floor. The general reference collection, the public catalog, the circulation desk, and administrative offices are located on the ground level. An informational booklet is available to assist in the use of these facilities. Study space is available on each floor interspersed with stack areas.

The special collections of the library, located on the fourth level, often come to the library from individuals whose interests lead them to devote many years to their acquisition. The books and other material housed in this area are not available for general circulation. Material within each collection is usually confined to a specific subject area.

The facilities of other libraries operated by the L.D.S. Church are available also to students of Brigham Young University. The Genealogical Society Library in Salt Lake City contains approximately 75,000 books and over 400,000 rolls of microfilm. These include family histories, genealogy, biography and autobiography, military records, cemetery inscriptions, town, county, and state histories of the United States, and both local and national histories of other nations. The Utah Valley Branch Genealogical Library, operating under the general direction of the society is headquartered at the J. Reuben Clark, Jr., Library.

Facilities of the library of the Church Historian's Office are available by arrangement to advanced students for research. It is located in Room 103 of the L.D.S. Church Office Building, 47 East South Temple in Salt Lake City, and is open from 8:30 a.m. to 5:00 p.m. Monday through Friday. Its collections contain publications of the Church, periodicals of the various auxiliary organizations, reports and histories of the various missions, general history of the Church, biographies of Church leaders, and other pertinent published and archival material.

Science Collections

The archaeological collections consist of materials for study and research in the early history of man in both the Old World and the New. Original antiquities illustrating the Old World range from crude stone hand axes of the Old Stone Age to inscribed tablets and other advanced products of the biblical civilizations of the Near East. Those illustrating the New World include artifacts of the early Indian cultures of Utah and the Southwest, and the pre-Columbian civilizations of Mexico and Central and South America.

Supplementing these materials are replicas of such famous archaeological monuments as the Rosetta Stone—key to the decipherment of the Egyptian hieroglyphics—and the "Tablet of the Cross" and Stela 5 ("Lehi Tree-of-Life Stone"), from the Central American ruins of Palenque and Izapa, respectively.

Also among the collections is a research archive of photographs and field card records of antiquities excavated or examined by archaeological expeditions of the University and other institutions.

These collections constitute the Museum of Archaeology and Ethnology, which is open to the student body and the public on the first floor of the Karl G. Maeser Memorial Building.

The botanical collection includes an herbarium of fungi, liverworts, mosses, and vascular plants from many parts of the world. The mycological collection consists of more than 6,000 specimens of fleshy and parasitic fungi, most of which have been collected in the Rocky Mountain area. This represents the largest collection of its kind in the region.

The vascular plant herbarium includes over 200 plant families, 1,250 genera, and 10,000 species, represented by over 50,000 herbarium sheets. The collection is made up principally of plants collected in the western states, but many plants of the eastern states, Europe, Mexico, and South America are included as well as a good representation of the Arctic regions of Siberia, Iceland, and Alaska including the Aleutian Islands. Some 2,000 specimens recently have been added to the collection from the Mediterranean region of Europe and from the Middle Eastern countries of Iran and Afghanistan. Separate collections of poisonous plants, range plants, woody plants, and plant diseases are maintained.

The department maintains a botanical garden or arboretum where many trees and shrubs of various regions of North America are grown in natural association. This garden is designed as an experimental project to enrich the tree flora available for use as shade trees, as a public educational exhibit, and as a study area for many classes. Several gardens also are maintained for experimental plantings.

The geological collections of the University consist of an unusually complete series of minerals and an interesting variety of fossils.

The minerals number many thousands and are representative of the great western mining districts together with hundreds of localities of note. Part of this collection once represented the nucleus of the famous Deseret Museum Collection of Salt Lake City.

The fossil series are representative of many states and typical world localities. Much of this material also was formerly a part of the Deseret Museum Collection.

A museum displaying several unusual fossil dinosaurs and other reptiles and mammals is at present being developed by the geology department curator. It is open daily for public inspection.

The zoological collections of the University consist of a large series of vertebrate and invertebrate species from western North America and from many foreign countries. These materials are available to teachers, advanced students, and visiting scientists.

The vertebrate collections consist of sizeable series of fishes, amphibians, reptiles, birds, and mammals housed in the Heber J. Grant Building. In addition to the representative series of local species, the vertebrate collections include the Chester Van Buren collection of South and Central American birds; the Robert G. Bee, John Hutchings, Merlin L. Killpack, and Ashby D. Boyle collections of bird eggs; and the David Starr Jordan specimens of Hawaiian fishes. Staff members, graduate students, and friends of the University have contributed material from Mexico, South America, Africa, Formosa, Malaya, and the South Pacific Islands, as well as from other areas throughout the world.

The invertebrate collections include numerous specimens of insects and their near relatives as well as many representatives of the other phyla of invertebrates obtained locally and from many distant places. Medically important arthropods such as fleas, lice, mites and ticks are represented. Special collections include the Lee F. Braithwaite Collection of marine invertebrates; Lynn and Kate Irene Meibos Collection of mollusk shells; Tom Spaulding and Ashby D. Boyle butterfly collections; and the Charles W. Leng, Charles Schaeffer and Willis Blatchley collections of beetles. The extensive collections of insects are housed in the Brimhall Building. Other invertebrates are suitably preserved and available for research and academic purposes.

Research grants from the Atomic Energy Commission, National Science Foundation, National Institutes of Health, and the Texas Gulf Sulphur Company (Potash Division) have made it possible to add materially to both vertebrate and invertebrate collections from Southern Nevada, the Colorado River Basin, and other areas of the Intermountain West.

Computer Research Center

The Computer Research Center was established in 1958 with the installation of the IBM 650 computer. In December 1963 a large-scale IBM 7040 computer was installed. An IBM 1401 computer, installed in August 1964, assists in the card handling and printing for the IBM 7040. Supporting punched-card equipment is available in the center.

The primary objectives of the center are to encourage research, to provide instruction in computer science and technology, and to serve the administrative data processing needs of the University. The computing facilities are available to all faculty and students. Participation by everyone is encouraged.

Research is enhanced by using the powerful arithmetic and logical processing capabilities of the computer. It not only can perform numerical calculations, but also can process symbolic representations of data from all fields. In addition to its use as a tool in processing data from other fields, research is encouraged on new computer programming and application techniques. Instruction is given in several departments covering computer fundamentals and advanced applications, and frequent noncredit seminars are given on various computer-related topics.

The center, with several full-time staff members and a number of research assistants, serves the entire campus. Each year a few openings exist for student assistantships. Competition is keen, and students should not plan to obtain an appointment until they have discussed their qualifications with the director of operations. Additional information, including a users' manual, may be obtained at the center, located in the basement of the Abraham O. Smoot Administration and General Services Building.

Placement Center

The Placement Center assists graduating students and alumni in finding desirable positions in business, industry, government, and education. This office works in close cooperation with deans and department chairmen.

The placement service includes a placement library where interested students may find books, articles, magazines, and brochures that will acquaint them with companies in which they may be interested and also materials which will give advice on such matters as how to conduct oneself in an interview, how to write effective letters of application, and how to prepare a résumé.

All students are urged to register with the Placement Center early in the school year in which they expect to receive a degree. Early registration will enable that office to give the most effective possible assistance in finding employment for each graduate.

Faculty Organizations

B.Y.U. Women. All women who are full-time employees of Brigham Young University and wives of full-time employees are eligible for membership in B.Y.U. Women. Strong in tradition and prestige, B.Y.U. Women has been promoting University ideals and providing intellectual and social opportunities for its members since 1916. The program includes afternoon cultural programs, partner-and-guest events, projects, and opportunities to support the University and become better acquainted with the B.Y.U. faculty.

The Society of the Sigma Xi. The Society of the Sigma Xi is a national organization devoted to the encouragement of research in pure and applied science. The local unit is known as the Brigham Young University Chapter. Members of the Society of the Sigma Xi on the staff at Brigham Young University organized a Sigma Xi club in 1935. Since that time it has remained continuously intact, encouraging research and other activities in the various branches of science. A petition for chapter standing was submitted by the local club in 1949. A chapter was granted by the National Society of the Sigma Xi, and formal installation took place October 17, 1950.

Specific local projects include the sponsoring of a national Sigma Xi-appointed lecturer, the promotion of several lectures by prominent scientists within the unit and from nearby institutions, an annual Sigma Xi lecture by a member of the chapter, the awarding of certificates to graduate students in recognition of outstanding master's and Ph.D. theses, and the direction of possible sources of research funds in the interest of pure and applied science.

Alumni Association

The Brigham Young University Alumni Association was organized in 1893 to "promote the general welfare of Brigham Young University."

During the more than seventy years of its existence it has assisted the University in many ways. The Maeser Memorial Building was built with funds from alumni; part of the property on which the upper campus now stands was obtained by the Alumni Association and turned over to the University, and eighty additional acres were purchased by the Church at the suggestion of alumni leaders; a permanent endowment fund was established in 1929; the Alumni Association is now taking an active part in the Brigham Young University Development Program; the fieldhouse fund drive was supported by the Alumni Association; funds in cash have been turned over to the University at various times for unrestricted use; the Alumni Association played an important role in the raising of funds for the new football stadium; and the alumni have played a vital part in stimulating interest in Brigham Young University through contacts with prospective students.

Alumni of the University are located in all fifty states, four United States territories and possessions, and fifty-two foreign countries. Business matters of the association are handled by an eighteen-member board of directors, headed by a president, two vice-presidents, a treasurer, the president of the Emeritus Club (composed of alumni who were at the University fifty or more years ago), and a full-time executive director. Members of the board of directors are selected each year to serve terms of three years.

The Alumni Association maintains an Alumni Family Camp at Aspen Grove, located in the North Fork of Provo Canyon approximately eighteen miles from Provo. Constructed in 1963, this mountain retreat invites alumni to return to the area with their families to participate in a program of recreation and education. Included in the facilities are fifty individual cabins, swimming pool, lodge, tennis courts, softball field, dining hall, modern kitchen, children's playground, and other recreational and camping accommodations. The camp is operated on a nonprofit basis and is open during June, July, and August of each year for the benefit of members of the Alumni Association and their families.

Anyone who has attended the University for one quarter or more is a member of the Alumni Association. There are no annual dues or membership drives, except that the Alumni Association solicits contributions for the Brigham Young University Annual Alumni Fund. All contributions to this Fund are tax-deductible and entitle the donor to receive publications of the University and the Alumni Association, including the "Alumnus Magazine," which is issued quarterly.

Homecoming, in the fall, and Alumni Day, during Commencement Week, are the two major events of the year on campus for alumni. Periodic reunions of all graduating classes are held on these two days. Meetings also are held throughout the country by alumni living in local areas.

The Alumni Association maintains permanent records of all former students of the University and a full-time office staff on the campus. If the current address or other information is needed about a former student, correspondence should be addressed to the B.Y.U. Alumni Association, B.Y.U. Alumni House, Provo, Utah. Alumni visiting the campus are invited to visit the alumni offices in the new Alumni House and to make the building their headquarters while in the area.

The Alumni Association is a member of the American Alumni Council, an organization composed of alumni associations of all the major universities and colleges in the United States, Canada, and Mexico.

Security and Traffic

The Security Office, a protective agency established for the benefit of students, faculty, and staff, maintains effective liaison with the local police department and is entrusted with the proper enforcement of campus rules and regulations. All matters concerning security or requiring police action should be referred to this office.

Another major responsibility of the Security Office is the control of campus motor vehicle traffic and parking. In each academic year University staff members and students who regularly or occasionally operate motor vehicles in Provo City shall register any such motor vehicles with the University Traffic Department. In the case of students this is a registration for identification only, not a parking permit. All staff members and students who plan to park on University parking lots between 7 a.m. and 5 p.m. on school days must display a parking permit on their motor vehicles. The student parking fee is $10.00 per academic year.

The Security Office also offers many other services to students and staff members, including the taking of fingerprints necessary for teaching certificates, government jobs, and A.F.R.O.T.C. and an ambulance service in connection with the Student Health Center. All campus roads will be closed on Christmas Day each year to preserve the private ownership thereof.

Automobile Registration: Out-of-State Students

Out-of-state students may register their cars either in their home state or in Utah. If fees and taxes are paid in the home state, students will be exempt from payment in Utah.

Students from out of state must register their cars on the campus. If the cars have been properly inspected, the students can get nonresident stickers from B.Y.U. for $.50 and will not be required to purchase Utah license plates.

Every student who is a resident of Utah, and every nonresident student who is in Utah for more than sixty days, is required to have a Utah operator's license before he may legally operate a motor vehicle on Utah highways.

Abraham O. Smoot Administration and General Services Building

Auxiliary and Communication Services

The University has a number of business units which operate as part of the services provided for students and faculty. As a matter of general policy these business units operate on a self-sustaining basis. They include functions such as housing, feeding, printing, motion picture production, purchasing, warehousing, receiving, mail service, creamery products, laundering, bookstore, farm management, etc.

Wilkinson Center

The Ernest L. Wilkinson Center serves as the focal point of informal education at Brigham Young University. Here some of the finest facilities in America provide for development of human potential. The organization and program are concerned with individual growth. In a word—the center is student oriented.

Student government committees plan programs, share experiences, and attempt to understand group and personal interrelationships. A congenial setting for meals, games, hobbies, and the exploration of music and art is provided for the University family.

In all of these experiences self-directed activity is encouraged, giving maximum opportunity for self-realization and growth in individual, social, and intellectual competency. The goal: development of young Latter-day Saints with the strength to build their lives on the principles of the Restored Gospel of Jesus Christ.

B.Y.U. Bookstore

The B.Y.U. Bookstore is a department store right on campus in the Wilkinson Center. In addition to regular books and supplies needed in classes, it carries a wide range of convenience items to help the student conserve shopping time.

The B.Y.U. Bookstore is owned and operated by Brigham Young University. Modest profits made by the store after all operating expenses are paid are returned to the University. A part of every dollar spent at the store goes to help operate and maintain the Wilkinson Center for students and faculty.

In this campus setting every effort is made to operate the store as an example of good retail practice and as an essential service to the University family.

Auxiliary Services

Student Housing

The business and financial aspects of student housing, on campus and in the Provo community, are supervised from the Office of Student Housing. For details concerning these services, including housing rates, refer to the section of this catalog titled "Student Housing."

Food Service

The University-owned-and-operated food services provide the following accommodations:

Cafeteria Service

Regular student board and room accommodations are available in Helaman Halls and Deseret Towers. Here food is prepared and served cafeteria style. The Language Training Mission on campus is accommodated in Amanda Knight, Allen, and Knight-Mangum Halls. All food needs are supplied to these halls on a cafeteria basis.

The Ernest L. Wilkinson Center shopping-style dining area is a favorite of many people. The easy-flow style provides quick service for the patrons.

Snack Bars

Snack Bar services are provided in Cannon Center, Deseret Towers, the Ernest L. Wilkinson Center, and the George Albert Smith Fieldhouse.

Vending

Quick snacks are provided by vending machines operated throughout the entire campus by Auxiliary Services.

Dairy Products Laboratory

The University maintains a Dairy Products Laboratory where milk and ice cream are processed. This laboratory is maintained to meet the academic objectives of the University and to serve the needs of the food service unit on campus. Faculty and staff members are eligible to purchase milk, ice cream, and other dairy products and bakery goods at very favorable prices at this location. This new facility is located north and west of the new Deseret Towers, and access roads are available from 900 East and 1430 North.

Concession Stands

The food services provided through the concession stands in the George Albert Smith Fieldhouse and the new stadium for all athletic and student functions are part of the Food Services Department.

Bakery

A large bakery operation is operated by the Food Services Department to supply the needs of the campus. Retail outlets are located in the Ernest L. Wilkinson Center and the Dairy Products Laboratory.

Catering

In-service and take-out catering services are available. Each social function availing itself of these services receives individual attention both in planning and serving by the catering staff. A call or visit to the Catering Office in the Wilkinson Center will insure you of professional assistance in the arrangement of food services for your special event.

Faculty and staff members and their families and University visitors and guests are always welcome to use the services available in all units of the Food Services Department.

Post Office

The Postage and Mailing Department is located in the Wilkinson Center. Its function is to pick up and deliver all of the inter-campus mail and to pick up and meter all of the outgoing U.S. mail. With certain exceptions, two deliveries and three pick-ups are made each day on the campus.

Directory service is available for all mail addressed to Brigham Young University that does not indicate the department for which it is intended. This is true also for mail sent to students c/o Brigham Young University. Whenever possible, mail should show a definite address for students and should be addressed to a specific room and building for faculty and staff to avoid special handling and delay. Mail then will be delivered directly to the proper address or building by the U.S. postal carrier.

A U.S. Post Office, University Station, is located in the Wilkinson Center where all regular postal services are available. Here students may receive and send mail, purchase stamps and money orders, etc. Individual rental boxes are available for student use, and a stamp vending machine is available for stamp purchases after regular postal hours.

Purchasing Department

The Purchasing Department is located in Room C-144 of the Abraham O. Smoot Administration and General Services Building. Its services are designed to relieve faculty, other members of the University staff, and the associated students from certain duties of procurement. Through this department all purchase orders are issued for equipment, supplies, and services for the University, with the exception of library books, which are ordered by the library on special purchase orders.

Stores and Receiving

The Stores and Receiving Department is located in the metal quonset building directly east of the Harvey Fletcher Engineering Laboratory Building. All deliveries are made here, and materials received are inspected (with the exception of drugs, chemicals, zoological specimens, and delicate scientific instruments, which go directly to the department using them) before being delivered to the various ordering departments.

Communication Services

All of the communication service agencies on the campus have been brought together to provide a broad spectrum of support to the communication programs of the University. These agencies include the areas named below. The graphic arts, the printed and spoken word, the still and motion picture arts, and the televised story are all unified to provide a modern approach to the University and Church programs.

Broadcast Services

The University maintains and operates an FM radio station, KBYU-FM, and an educational television station, KBYU-TV. Studios are located in the Harris Fine Arts Center. The television transmitter is located on Mount Vision west of Salt Lake City in the Oquirrh Mountains. These two stations provide in addition to regular program schedules a program service for advanced students in radio and television broadcasting. They are also used as a resource by the entire University and Church in the enhancement of their objectives.

The television facilities include modern video recorders as well as a large van-equipped remote unit. Closed circuit instructional television productions for campus release augment the course offerings at the University.

Communication Systems

Communication Systems provides services in three areas. The Audio and Video Operations section operates the campus public address systems, the campus audio and video communication cable systems, and the audio recording studios, as well as the reproduction and distribution of recorded tapes. The Maintenance section is responsible for the maintenance and repair of electronic and audio-visual equipment. The Engineering section designs and installs communication systems for new and old buildings. Existing installations are also reviewed for redesign or modification to meet new needs.

Educational Media Services

The Educational Media Services Department provides service in Graphic Arts, Media Development and Marketing, and Instructional Materials. A staff of trained commercial artists can provide the construction of personalized charts, maps, graphs, brochures, designs, cartoons, slides, and other teaching items.

The Media Development and Marketing group can provide assistance in the development of many types of teaching aids as well as provide an outlet for the distribution of these materials to other educational institutions and the Church. Instructional materials available include audio tapes, film strips, projectors, screens, tape recorders, and other special equipment. The rental film library contains more than 8,000 16 mm sound motion pictures.

The scheduling desk for this department is located just inside the west door of the Herald R. Clark Building.

Motion Picture Production

The Motion Picture Production Department is responsible for the production of documentary, historical, educational, and training films relating to the program of the Church and the University. These films are used in the public relations and educational programs of the Church, of the University and of other schools, colleges, and universities.

The Motion Picture Studio is located on the Carterville road near the Provo River two miles north of the campus. It is one of a very few motion picture production studios operated by a University.

Two sound stages give the Studio a versatility for erecting a wide variety of sets. Animation facilities are available as well as equipment to make films on location and at the studio. Filmstrips utilizing live models and sets are also produced.

Photo Studio

Located in the Wilkinson Center is a modern, fully-equipped Photo Studio. It is established to provide economical photographic service to students, faculty, and administrative departments. Modern production equipment is utilized to provide services for portraits, commercial and industrial photographs, copy work, news requirements, microfilms, color prints and transparencies, and publications illustrations. Family and group photos, aerial pictures, publicity shots, and identification poses are regularly made by experienced personnel.

University Press

The University has extensive facilities for the production of both offset and letterpress printing. The press is responsible for the printing of the student daily newspaper, the yearbook, and numerous catalogs, brochures, bulletins, and office forms. All types of printing, including color work are represented in a typical day's production in this second largest press establishment in the state.

Graduate School

Graduate School

Wesley P. Lloyd, Dean (208 ASB)

GENERAL INFORMATION

History and Purpose

The first graduate offerings of Brigham Young University were established in 1918. The Graduate School now offers doctoral-degree programs in 31 fields, distributed through 14 departments, and master's-degree programs in 81 fields, distributed through 41 graduate departments. Thus, a department may be responsible for the operation of the graduate program in several fields. In some circumstances, one field may include offerings from several departments. The departments fall within the areas of biological and agricultural sciences, business, education, family living, fine arts and communications, humanities, industrial education, physical and engineering sciences, physical education, religious instruction, and social sciences.

Administration of the Graduate School

The Graduate Dean. The dean of the Graduate School, as immediate administrator of the graduate program of the University is responsible, under authorization of the academic vice-president and the President, to execute policy and procedure of the Graduate School. He serves as chairman of the Graduate Council and conducts meetings of the graduate faculty.

The Graduate Council. The chief administrative body for the graduate program is the Graduate Council, which includes the dean of the Graduate School as chairman, the director of research, four members of the graduate faculty elected at large for terms of three years and one member of the graduate faculty elected for a three-year term from each of the areas of subject matter included in the undergraduate colleges. The academic vice-president and the director of libraries are ex officio members of the council. The Graduate Council is empowered to act for the graduate faculty on all student petitions and on departmental requests for approval of faculty members for temporary assignments to graduate instruction and supervision. The Council initiates proposals for policy and procedure regarding the graduate program.

Graduate Faculty

The faculty of the Graduate School consists of members of the general faculty who are approved by the dean of the Graduate School from among those who hold the rank of professor or associate professor, or assistant professor with a doctoral degree, and others approved by the Graduate Council. It is the responsibility of the graduate faculty to formulate and recommend University-wide requirements for all graduate degrees and to recommend regulations and facilities to promote the scholarly activities and research interests of graduate students.

The general provisions of the graduate programs are established by the graduate faculty, subject to review by the academic vice-president or the President of the University. Special consideration is given to the circumstances and needs of each department or doctoral area. Programs are established on a broad base to permit the departments and the graduate school to regulate specific requirements. The specific requirements for a given degree are proposed by the department concerned and reviewed by the Graduate Council, the dean of the Graduate School, and the administration.

GENERAL REQUIREMENTS

Admission to the Graduate School

At Brigham Young University all students who have the bachelor's degree from an accredited university register with the Graduate School.

Requirements for Admission on a Degree-Seeking Basis. For admission as a degree-seeking graduate student an applicant must present a 3.0 (B) grade-point average during his latest 60 semester hours of academic work or during a period approved by the department and the dean of the Graduate School. The applicant may through qualifying examinations be required to furnish additional evidence concerning his ability to pursue graduate work in his major field. This may include capacity for research or creativity, facility in written and oral expression, or appropriate professional objectives. Other requirements may be prescribed.

A student whose native language is not English is cautioned that adequate command of the English language is indispensable to successful graduate work. He must include with his application for admission a statement from a responsible official indicating that the applicant knows how to read, write, speak, and understand the English language sufficiently well to be able to pursue a satisfactory program of study on the graduate level. Admission of students from foreign countries ordinarily will be granted on a provisional basis pending the applicant's experience on the campus and his opportunity to demonstrate ability to do successful graduate work.

Procedure for Admission on a Degree-Seeking Basis. To be admitted to the Graduate School on a degree-seeking basis, a student should file with the Office of the Graduate Dean an application which includes the following: (1) forms for admission or readmission to the Graduate School (unless the student was in attendance at Brigham Young University the preceding semester), (2) two transcripts of all previous college work (if that work was **not** done at Brigham Young University, (3) three letters of recommendation. Two of these letters should relate to the student's academic ability and the third to his character. These letters should be sent directly to the Office of the Graduate Dean by those making the recommendations. Forms for application and for letters of recommendation are provided by the Office of the Graduate Dean.

Application forms should be filed not later than two months before the beginning of the semester in which the student plans to begin his work. Students who do not have their applications filed by this date cannot be assured that their applications will be acted upon by registration time.

The forms are evaluated by the department in which the student intends to major and by the dean of the Graduate School. Permission to register as an unclassified student should not be confused with permission to register as a degree-seeking graduate student. Admission to either classification is initiated by the student and authorized by the dean of the Graduate School. Notice of acceptance as a degree-seeking student is sent to the applicant from the Office of the Graduate Dean.

Provisional Students. The student whose latest two years of academic work is between 2.5 and 3.0 (B) or who matriculated from a university which is not accredited, may be admitted on a provisional classification upon recommendation of his department chairman and the approval of the graduate dean. A student classified as provisional, due to grade point, shall be required to submit a minimum of 12 semester hours of graduate or approved upper-division credit with a "B" average or higher before being reconsidered for full degree-seeking status. Graduate or approved upper-division credit in an amount of 16 hours received while on provisional status may, if acceptable to the department, be counted toward a graduate degree. For special and significant reason an advisory committee may recommend that graduate or approved upper-division credit beyond 16 hours and not in excess of 21 hours earned during provisional status be granted toward the degree. Final action on such a request is the responsibility of the graduate dean.

Admission on a Nondegree Basis. A student with the bachelor's degree may register on a nondegree basis for a wide variety of courses for which he is prepared. Credit earned during nondegree classification will count toward a graduate degree only in a highly limited amount and then as recommended by the faculty advisory committee after the student has been admitted on a degree-seeking basis. To be admitted to the Graduate School on a nondegree basis, a student should file with the Office of the Graduate Dean (unless he was in attendance in day school the preceding semester) an application for admission or readmission, furnish an official transcript of all college or university work other than that completed at Brigham Young University, show evidence of having received the bachelor's degree, and present an academic record of 2.0 or higher. Admission is by means of a registration permit issued by the Office of the Graduate Dean. If a student has been in attendance at Brigham Young University during the previous semester, registration materials are automatically prepared for him.

Graduate Credit for Seniors. If, during the last semester of the senior year, a candidate for a baccalaureate degree finds it possible to complete all requirements for such a degree with a registration of fewer than sixteen hours of undergraduate credit, he may register for graduate credit to the extent that the total registration shall not exceed sixteen hours during the semester. A form provided by the Office of the Graduate Dean, stating that all baccalaureate requirements are being met during the current semester, must be signed by the appropriate undergraduate dean and presented to the dean of the Graduate School at the time of such registration. This registration does not constitute permission to seek a higher degree, and such credit does not apply toward a higher degree unless it is later approved by the student's graduate advisory committee.

Transfer Credit. Graduate credit acceptable to a student's advisory committee not in excess of 10 semester hours may be transferred from another accredited university of the United States upon the approval of the student's advisory committee and the Graduate Council. Forms for petitioning for such transfers are available in the Office of the Graduate Dean. Credit transferred must represent work which is a fair and reasonable equivalent of corresponding work at this University. All transferred credit must be of grade "B" or better. At least twenty semester hours toward the master's degree must be taken on the Brigham Young University campus.

Student Load. An academic load for graduate students not employed part time is from 9 to 16 semester hours or their equivalent. Teaching assistants and others employed part time should limit their loads to fewer than 14 credit hours. Graduate teaching assistants are expected to carry a minimum of 6 hours of credit approved by the registration adviser and the dean of the Graduate School. Full-time employees should register for not more than 5 semester hours. Experience has shown that because of the intensive character of graduate study and the academic grade-point average required, students usually should take less than the maximum load permitted.

Scholastic Standards. A grade-point average of 3.0 for all credit applying toward the degree is required of any student earning a degree in the Graduate School. A degree-seeking student whose cumulative grade-point average, while registered in the Graduate School, falls below 2.7 shall have his academic record reviewed by the department chairman and the graduate dean to determine whether or not he shall remain on degree-seeking status. Graduate students whose grade-point averages fall below 2.5 cumulative in credit applying toward the degree will be placed on immediate academic probation for one semester with opportunity to raise the grade-point average to 2.7 or higher. A student with a cumulative grade-point average under 2.0 is not eligible for registration in the Graduate School under any classification.

Departmental Requirements. Special departmental requirements for advanced degrees are listed under each major department.

Application for Graduation. A student, when contemplating graduation, should secure from the Office of the Graduate Dean an application for graduation form and pay the graduation fee of $20 at the Treasurer's Office. This should be done not later than January 15 for June graduates and March 15 for August graduates, and before submitting the thesis to the Office of the Graduate Dean for approval as a basis for scheduling the final examination. A $3 late fee will be charged if graduation fee is paid after the above dates.

Graduation. All graduating students must attend the graduation exercises unless they have made satisfactory explanations of absence and have been officially excused under the authority of the President of the University. The request to be excused from the commencement exercises must be presented in writing to William R. Siddoway, dean of Admissions and Records, at least two weeks prior to commencement. Extreme emergencies of either illness or death in the family are the only exceptions to this requirement. Students not officially excused from the commencement will not be graduated until they attend a later commencement.

GRADUATE DEGREE PROGRAMS OFFERED BY DEPARTMENTS

Doctor of Philosophy

- Bacteriology
- Botany
- Chemistry
    - Analytical-Physical Chemistry
    - Biochemistry
    - Inorganic Chemistry
    - Organic Chemistry
    - Physical Chemistry
- Child Development and Family Relationships
    - Child Development
    - Family Relationships
    - Marriage Counseling
- Geology
    - Economic Geology
    - Mineralogy and Petrology
    - Paleontology
    - Stratigraphy and Sedimentation
    - Structural, Field, and Dynamic Geology
- Graduate Department of Education
    - Educational Psychology
- Graduate Studies in Religious Instruction
    - Bible and Modern Scripture
    - History of Religion
- History
- Languages
    - French
    - German
    - Spanish
- Music
- Physics
- Psychology
    - Clinical Psychology
    - General Psychology
- Sociology and Anthropology
- Zoology and Entomology

Doctor of Education

- Graduate Department of Education
    - Curriculum and Instruction
    - Educational Administration
    - Educational Psychology

Doctor of Religious Education

- Graduate Studies in Religious Instruction
    - Religious Education

Master of Arts

- Archaeology
- Art
    - Painting and Sculpture
    - Design and Crafts
- Dramatic Arts
    - Interpretation
    - Dramatic Arts and Theatre
- English
    - American Literature
    - English Literature
- Graduate Department of Education
    - Counseling and Guidance
    - Educational Administration
    - Educational Psychology
    - Elementary Education
    - Higher Education
    - School Psychology (interdepartmental)
    - Secondary Education
    - Special Education
- Graduate Studies in Religious Instruction
    - Bible and Modern Scripture
    - History of Religion
- History
- Institute of Government Service
    - International Affairs
- Languages
    - French
    - German
    - Latin
    - Portuguese
    - Spanish
- Music
    - Music Education
    - Music Theory
    - Musicology
- Physical Education
- Political Science
    - American Government and Policies
    - Foreign Government and Politics
    - International Relations
    - Political Theory
    - Public Administration
    - Public Law
- Recreation Education
- Speech
    - Public Address

Master of Science

- Agronomy
- Animal Science
- Bacteriology
- Botany
- Business Education
- Business Management
- Chemical Engineering Science
- Chemistry
    - Analytical-Physical Chemistry
    - Biochemistry
    - Inorganic Chemistry
    - Organic Chemistry
    - Physical Chemistry
- Child Development and Family Relationships
    - Child Development
    - Family Relationships
- Civil Engineering Science
- Communications
    - Journalism
- Economics

- Electrical Engineering Science
- Food and Nutrition
- Geography
- Geology
    - Economic Geology
    - Paleontology
    - Stratigraphy and Sedimentation
    - Structural, Field, and Dynamic Geology
- Health and Safety Education
- Industrial Education
- Institute of Government Service
    - State and Local Government
    - National Government
- Mathematics
- Mechanical Engineering Science
- Physical Education
- Physics
- Psychology
    - General Psychology
    - School Psychology (interdepartmental)
- Sociology and Anthropology
- Speech
    - Speech Pathology and Audiology
- Statistics
- Zoology and Entomology
    - Entomology

Master of Accountancy

- Accounting

Master of Business Administration

- Business Management

Master of Education

- Graduate Department of Education
    - Counseling and Guidance
    - Educational Administration
    - Educational Psychology
    - Elementary Education
    - Higher Education
    - Reading Specialist
    - School Psychology
    - Secondary Education
    - Special Education

Master of Fine Arts

- Art

Master of Health Education

- Health and Safety Education

Master of Library Science

- Library and Information Service

Master of Music

- Music
    - Organ
    - Piano
    - Voice

Master of Recreation Education

- Recreation Education

Master of Religious Education

- Graduate Studies in Religious Instruction
    - Religious Education

Minors are offered in the fields listed above in addition to the following fields:

- Agricultural Economics
- Applied Music
- Basic Chemistry
- Business Management
- Educational Philosophy and Programs
- Library Science
- Philosophy

GRADUATE DEGREE PROCEDURE AND REQUIREMENTS

Doctor of Philosophy Degree

Classification of Students. Students admitted to the Doctor of Philosophy degree program are classified as doctoral applicants and doctoral candidates. The student must be admitted to degree-seeking status as a doctoral applicant at Brigham Young University not later than the beginning of his last three semesters of full-time study intended to apply on the degree. The student is admitted to candidacy after meeting conditions for admission to candidacy and before registering for the last two semesters of full-time study intended to apply on the degree.

Advisory Committee. The student's program and his dissertation are developed under the direction and supervision of an advisory committee. The committee for a student working for the Doctor of Philosophy degree consists of at least three members. These members are nominated by the student from the graduate faculty of his major and minor or supporting fields, in consultation with the chairman of his major department and with the approval of the dean of the Graduate School. The chairman of the advisory committee is a representative of the major field. All work which is to apply toward the Doctor of Philosophy degree must be approved by the advisory committee.

As soon as his program of study is determined in consultation with the advisory committee, the student should supply each member of the committee with a copy of the program, and he should file with the Office of the Graduate Dean a properly signed copy. Forms for this filing are available in the Office of the Graduate Dean.

The membership of the advisory committee may be changed with the approval of all prospective members of the newly constituted committee, the chairman of the major department, and the dean of the Graduate School. After such a change the student reviews his entire program with the new committee.

Academic Requirements. The Doctor of Philosophy degree is awarded for distinguished attainment in a recognized field of learning, not merely for the completion of courses of study. The student must select a major field of study and at least one minor or supporting field approved by the department chairman and the dean of the Graduate School. Specific requirements in these fields are described by the departments. A full semester of residence credit is defined as from nine to sixteen hours in course work or the equivalent in research per semester. The advisory committee has authority to decide what work will be accepted to meet these requirements, and may accept or require up to two years of full-time study at another university. Ordinarily two years of full-time course work or research or its equivalent is to be taken on the Brigham Young University campus. At least two consecutive semesters of work during each of which a student is registered for not less than 9 semester hours, must be taken on the Provo campus.

Language Requirement. Before completing his comprehensive examinations and being admitted to candidacy, the student must present satisfactory evidence of proficiency in two foreign languages, one of which must be French or German, or Russian when this language has been authorized by the Graduate Council as a replacement for the French or German requirement. If the student chooses as his second language one other than French, German or Russian, he must pass a special examination pepared by the Department of Languages and administered by the B.Y.U. Testing Service, which includes minimum oral facility in one language. Examinations for these languages will be given only during specified dates in late October, February, April and July. The student must file with the Office of the Graduate Dean at least two weeks prior to the week of the examination an application to take the examination. Examinations for a given language other than those listed in Items A, B, or C below may be taken the first time without the payment of any fee or special permission. Subsequent attempts must be by written permission of the chairman of the academic department and payment of a $10 fee.

When the two languages are chosen from among French, German or Russian the requirements may be accomplished under either of the following options:

Option I. Two-language requirement for the Ph.D. degree. Any one or a combination of the following provisions meet this requirement.

A. Successful completion of the ETS examination in French and German, or in Russian when this language has been authorized. (These are the only language tests presently offered by ETS. Dates of and application for these examinations are made with the B.Y.U. Testing Service, in Room B-238, ASB.)

B. Successful completion of Language Courses 95 and 96 in either or both of the acceptable languages. (Offered only in French, German or Spanish.)

C. Successful completion of sixteen semester hours of credit in either or both of the foreign languages that are approved by the major department and the Graduate Council for the degree program.

Option II. Single-language requirement for the Ph.D. degree:

The foreign language requirement for the doctoral degree may be met through intensive study of one language leading to thorough familiarity with it. The objective of this requirement is to produce a scholar who can read the literature in an acceptable foreign language with fluency; one who can also converse with colleagues in his field in that particular language. Fulfillment of this objective would be manifest by examination that would demonstrate (1) the candidate's ability to translate literature in the field of specialization without the use of a dictionary with a competent level of speed and accuracy, and (2) his ability to converse in the language with acceptable facility.

Comprehensive Examination. The student must pass a comprehensive examination in his doctoral fields under the direction of his major department. In this examination the minor department will be represented by the present minor member of the advisory committee representing that department. This examination will normally be given at the end of the second year of graduate study.

Admission to Candidacy. Satisfactory completion of a comprehensive examination, the language requirement, and submission of a dissertation title card and prospectus approved by an advisory committee, are necessary for admission to candidacy for the Doctor of Philosophy degree. The student has the responsibility of filing with the Office of the Graduate Dean a form, provided by the same office and signed by the advisory committee and the chairman of the major department, stating that all conditions for admission to candidacy have been met and that the dissertation subject has been approved.

Notice by the dean of the Graduate School then admits the student to candidacy for the degree. This will normally be done after the completion of two years of graduate work. At least two semesters of full-time study must be completed after admission to candidacy and before graduation.

Dissertation. After being admitted to candidacy, the student, under the direction of his advisory committee, pursues original research toward an acceptable dissertation.

The dissertation (including an abstract not exceeding in length 60 lines of 60 spaces each) approved by members of the advisory committee and the department chairman, must be submitted for approval to the Office of the Graduate Dean two weeks prior to scheduling the final oral examination.

Upon approval of the dissertation by the dissertation secretary in the Office of the Graduate Dean, the orals may be scheduled and copies of the dissertation are to be distributed to members of the oral examination committee for review before the oral is given. The committee consists of the advisory committee, plus such other members as the department chairman and the dean of the Graduate School may designate. Following the examination, the final copies of the dissertation plus one extra original copy of the abstract (two if the student is majoring or minoring in education) signed by members of the advisory committee and the department chairman, are to be submitted to the Office of the Graduate Dean for final approval.

A minimum of four copies of the dissertation and five copies of the abstract is required by the University. The student is also required to arrange for the microfilming of his dissertation.

After the dissertation has been accepted by the Office of the Graduate Dean, the student will deliver 4 or more copies to Room 112 J. Reuben Clark, Jr., Library and pay the $25 fee for publishing the dissertation through University Microfilm Incorporated. The library will also collect $2.75 for each copy of the dissertation to be bound or a minimum of $11. The student will secure further instructions regarding binding, microfilming, and publication of dissertations in the Office of the Graduate Dean. Graduation will occur only in the case of students who submit to the Office of the Graduate Dean the dissertation binding receipt, not later than 15 days before graduation.

Final Oral Examination. Not later than 20 days before graduation, the student must pass a final examination on his dissertation and applicable subject matter given by a committee of not fewer than five members.

Time Limit. All academic credit applying toward the Doctor of Philosophy degree must be completed within nine years.

Under the following conditions academic work taken beyond the regularly-specified time limit may be accepted toward a graduate degree: The department making a request for an exception to the time-limit rule will make its proposal to the graduate dean with reference to each student case and on authorization will administer a special examination on the coursework in question. The graduate dean shall be fully informed regarding the specific examination, including the date on which it is to be administered and the results. The student will be permitted to count toward a graduate degree, courses successfully cleared through such examinations.

Doctor of Education Degree

Admission Requirements. For admission to degree-seeking status as a doctoral applicant the student must have completed 22 semester hours of education or possess certification as a teacher, must have completed two years of successful professional experience, possess demonstrable acquaintance with the field of education and be admitted by the Graduate School.

Classification of Doctoral Students. Students seeking the Doctor of Education degree are classified as **doctoral applicants** and **doctoral candidates.** The student must be admitted to degree-seeking status as a **doctoral applicant** at Brigham Young University during the first semester he is enrolled as a full-time graduate student. He is **admitted to candidacy** after meeting conditions for admission to candidacy and before registering for the field project and internship.

Advisory Committee. The early advisement of the student, until he passes the entrance examination, is supervised by the graduate committee in education which assigns him a specific adviser in his major field.

When the student successfully passes the entrance requirements, he is expected to consult with his department chairman to arrange for his advisory committee. The chairman and one member of the advisory committee must be in the student's major field, and there must be at least two additional members representing two other fields. The chairman of the major department is a member ex officio. All work which is to apply toward the Doctor of Education degree must be approved by the advisory committee.

As soon as his program of study is determined in consultation with the advisory committee, the student should supply each member of the committee with a copy of the course outline. He should file one copy, signed by the committee members, with the Office of the Graduate Dean and one copy with the graduate office of the College of Education.

The membership of the advisory committee may be changed with the approval of the graduate committee in education and the dean of the Graduate School.

Academic Requirements. The Ed.D. degree is awarded for distinguished attainment in a recognized field of learning. The student must meet the planned program as established by his major department. The equivalent of a minimum of three years of full-time study beyond the bachelor's degree is required. Full-time study is defined as nine to sixteen hours in course work or the equivalent in research per semester. The advisory committee has authority to decide what work will be accepted to meet these requirements, and may accept or require up to two years of full-time study elsewhere. One year must consist of two consecutive semesters on the campus of the University, during which the student takes a minimum of one two-hour seminar each semester. There is no foreign language requirement. The student must demonstrate proficiency in statistics to the satisfaction of the advisory committee.

Admission to Candidacy. To be eligible for advancement to candidacy the student must pass the qualifying examination, final written examination and submit a field project title card and prospectus approved by his doctoral advisory committee. Notice from the Office of the Graduate Dean then admits the student to candidacy for the degree.

Field Project and Report. A research project for the improvement of an education program must be carried out under the direction of the student's advisory committee after he has passed the final written examination. The report of the field study must meet the same standards of format as the Doctor of Philosophy dissertation and must be submitted under the same schedule and publication requirements.

Examinations. A qualifying examination is administered to all doctoral students after approximately fifty semester hours have been completed. A final written examination is administered to all doctoral students at the completion of their course work.

A final oral examination on the field project is administered at the conclusion of the field project and not later than 20 days before graduation. This examination cannot be scheduled until the student has submitted approved copies of his project to the Office of the Graduate Dean and secured the forms for scheduling the examination. On these forms the student will have listed by his chairman the names of all members of the examining committee. The examining committee consists of the student's advisory committee and such others as the department chairman and the dean of the Graduate School may designate.

Time Limit. All academic work applying toward the Doctor of Education degree must be completed within a period not to exceed nine years.

Under the following conditions academic work taken beyond the regularly-specified time limit may be accepted toward a graduate degree: The department making a request for an exception to the time-limit rule will make its proposal to the graduate dean with reference to each student case and on authorization will administer a special examination on the course work in question. The graduate dean shall be fully informed regarding the specific examination, including the date on which it is to be administered and the results. The student will be permitted to count toward a graduate degree, courses successfully cleared through such examinations.

Master's Degrees

The Graduate School offers the following master's degrees: Master of Arts, Master of Science, Master of Accountancy, Master of Business Administration, Master of Education, Master of Fine Arts, Master of Health Education, Master of Library Science, Master of Music, Master of Recreation Education, and Master of Religious Education. The master's degree is awarded upon completion of general and departmental requirements. For specific requirements, see the departmental listings in the Graduate School Catalog.

Admission on a graduate degree-seeking basis must be completed before the student registers for the last 15 hours of credit intended to apply on the degree.

Procedure for the Graduate Degree-Seeking Student. Following admission to the Graduate School on a degree-seeking basis, the student should secure from the Office of the Graduate Dean forms covering the following headings and should return them to the same office within the time limit indicated.

Advisory Committee. The advisory committee must be formed and the names of the members on file in the Office of the Graduate Dean within two months after a student's first registration on a degree-seeking basis.

The student's program and his thesis are developed under the direction and supervision of the advisory committee. The committee for the master's degree consists of at least two members, one member representing the major field and one the minor or supporting field. These members are nominated by the student from the graduate faculty of his major and minor or supporting fields, in consultation with the chairman of his major department and with the approval of the dean of the Graduate School. The chairman of the advisory committee is a representative of the major field. This committee advises the student in his proposed program, approves the official course outline, advises him in registration, and directs his research and the work on his thesis. At least 15 hours must be taken after the advisory committee has been formed and must be approved by the advisory committee prior to registration. All work which is to apply toward an advanced degree must be approved by the advisory committee.

An advisory committee may be changed with the approval of all prospective members of the newly constituted committee, the chairman of the major department, and the dean of the Graduate School. After such a change, the student reviews his entire program with the new committee.

English 99. The English 99 form is due during the first semester of graduate work. Students who are required to register in English 99, Problems in Thesis Writing, a noncredit course, should take this course at the earliest possible time.

Course Outline. The course outline constitutes the official program of the graduate student and is due in the Office of the Graduate Dean not later than one week following the appointment of the advisory committee and in all cases prior to registering for the last fifteen hours of credit applying toward the degree.

Revisions. When there is a needed change in the student's program, advisory committee membership, etc., a memo should be submitted to the Office of the Graduate Dean, recommending the revision and signed by all members of the advisory committee and the department chairman.

Title Card and Prospectus of Master's Thesis. Before beginning his research or creative work, the student must obtain approval of the thesis problem. He must file with the Office of the Graduate Dean a title card and a prospectus, both signed by the members of the advisory committee and the department chairman. This should be done prior to registering for the last 15 hours of course work toward the degree.

Submitting Thesis or Project for Approval and Binding. The thesis or project (including an abstract not exceeding in length 60 lines of 60 spaces each) approved by members of the advisory committee and the department chairman, must be submitted for approval to the Office of the Graduate Dean two weeks prior to scheduling the final oral examination. Upon approval of the thesis or project by the dissertation secretary in the Office of the Graduate Dean, the orals may be scheduled and copies of the thesis or project are to be distributed to members of the oral examination committee for review before the oral is given. Following the examination, the final copies of the thesis or project, plus one extra original copy of the abstract (two if the student is majoring or minoring in education), signed by members of the advisory committee and the department chairman, are to be submitted to the Office of the Graduate Dean for final approval and authorization to submit to the library for binding. Graduation will occur only in the case of students who submit to the Office of the Graduate Dean the thesis binding receipt not later than 15 days before graduation.

Detailed directions for the form of the thesis are obtained from the major department. A department may authorize a minimum of 6 and a maximum of 9 credit hours for a master's thesis. The thesis credit shall include such disciplines as review of the literature, all thesis research, and the writing of the thesis.

Time Limit. Graduate credits are applicable toward the master's degree only within a six-year period from the time they are received. Students are counseled to complete their programs without notable interruption.

Under the following conditions academic work taken beyond the regularly-specified time limit may be accepted toward a graduate degree: The department making a request for an exception to the time-limit rule will make its proposal to the graduate dean with reference to each student case and on authorization will administer a special examination on the course work in question. The graduate dean shall be fully informed regarding the specific examination, including the date on which it is to be administered and the results. The student will be permitted to count toward a graduate degree, courses successfully cleared through such examinations.

Procedure for the Degree-Seeking Student. The student's program and his thesis are developed under the direction and supervision of an advisory committee. The advisory committee for a student seeking the master's degree consists of at least two members. These members are nominated by the student from the graduate faculty of his major and minor department in consultation with the chairman of his major department and with the approval of the dean of the Graduate School. The chairman of the advisory committee is a representative of the major field. This committee advises the student in his proposed program, approves his registration, and directs his research and the work on his thesis. The advisory committee must be formed and the names of the members on file in the Office of the Graduate Dean within two months after a student's first registration on a degree-seeking basis. At least 15 hours must be taken after the advisory committee has been formed and must be approved by the advisory committee at registration. All work which is to apply toward an advanced degree must be approved by the advisory committee.

An advisory committee may be changed with the approval of all prospective members of the newly constituted committee, the chairman of the major department, and the dean of the Graduate School. After such a change, the student reviews his entire program with the new committee.

Amount and Distribution of Credit. The master's degree requires a minimum of 30 semester hours of credit and may be obtained by completing one of the options listed below. The second option is available only after the Graduate Council has approved a program which a department has submitted to it.

Applicable to Options I and II is the provision that at least 21 credit hours must consist of courses for which there is a systematic body of subject matter. Each of such courses is to be identified with a given course number such as ordinarily identifies a formal course or seminar. Individual reading, thesis, research, and special problems may not be included in these latter totals.

Option I. At least 15 semester hours, exclusive of thesis, must be in the major field and at least 9 semester hours in a minor field approved by the major department.

Option II. Thirty hours must be in the major field or in direct support of the major field. Courses outside the major field and considered as in direct support of the major field must be specified. Such courses should not constitute more than 12 of the 30 credit hours. A department will be permitted to adopt Option II as a permanent policy on request of the department and on approval of the Graduate Council. The department need not list courses which are considered to be in direct support of the major field, but when Option II is used, the student's committee should consist of a representative from the major field and one from a supporting area.

A graduate student may have applied toward requirements for the master's degree a limited amount of credit earned by taking certain upper division undergraduate courses which have been approved by the graduate advisory committee at the time of registration, or appearing on the course outline of a degree-seeking student. At least 20 hours of the credit for the master's degree must be in the 500 series or above and taken on the Brigham Young University campus. A minimum grade-point average of 3.0 is required in all work applying toward the degree.

Neither lower division nor correspondence credit may be applied toward a graduate degree.

Graduate Credit for Seniors. If, during the last semester of the senior year, a candidate for a baccalaureate degree finds it possible to complete all requirements for such a degree with a registration of fewer than sixteen hours of undergraduate credit, he may register for graduate credit to the extent that the total registration shall not exceed sixteen hours during the semester. A form provided by the Office of the Graduate Dean stating that all baccalaureate requirements are being met during the current semester must be signed by the appropriate undergraduate dean and presented to the dean of the Graduate School at the time of such registration. This registration does not constitute permission to seek a higher degree, and such credit does not apply toward a higher degree unless it is later approved by the student's graduate advisory committee.

Transfer Credit. Graduate credit acceptable to a student's advisory committee and not in excess of 10 semester hours may be transferred from another accredited university of the United States upon the approval of the student's advisory committee and the Graduate Council. Forms for petitioning for such transfers are available in the Office of the Graduate Dean. Credit transferred must represent work which is a fair and reasonable equivalent of corresponding work at this University. All transferred credit must be of grade "B" or better. At least twenty semester hours toward the master's degree must be taken on the Brigham Young University campus.

Student Load. An academic load for graduate students not employed part time is from 9 to 16 semester hours or their equivalent. Teaching assistants and others employed part time should limit their loads to fewer than 14 credit hours and not less than 6 hours of credit approved by the registration adviser and the dean of the Graduate School. Full-time employees should register for not more than 5 semester hours. Experience has shown that because of the intensive character of graduate study and the academic grade-point average required, students should usually take less than the maximum load permitted.

Graduation. All graduating students must attend the graduation exercises unless they have made satisfactory explanations of absence and have been officially excused under the authority of the President of the University. The request to be excused from the commencement exercises must be presented in writing to William R. Siddoway, dean of Admissions and Records, at least two weeks prior to commencement. Extreme emergencies of either illness or death in the family are the only exceptions to this requirement. Students not officially excused from the commencement will not be graduated until they attend a later commencement.

Final Oral Examination. The candidate for graduation must pass a final oral examination not less than 15 days prior to graduation if Provision No. 1 is chosen, and not less than 30 days prior to graduation if Provision No. 2 is chosen.

This examination cannot be scheduled until the student has submitted approved copies of his thesis or project to the Office of the Graduate Dean and secured the forms for scheduling the examination. On these forms the student will have listed by his department chairman the names of all members of the examining committee. Following the examination, the final signed copies of the thesis or project are to be submitted to the Office of the Graduate Dean for final approval and authorization to submit to the library for binding not later than 15 days before graduation.

The examination committee for the master's degree will consist normally of at least four members. There must be at least two examiners from the student's major field and one examiner from the student's minor or supporting field. There shall be on the committee at least two examiners who are not members of the student's thesis advisory committee. The committee may consist of a minimum of three examiners if constituted as provided herein. In any case, two or more negative votes will constitute failure in the examination. Other members of the graduate faculty may attend the examination and enter the discussion, as nonvoting participants.

The final oral examination consists of a student's defense of his thesis and a searching examination into the student's preparation and competence in his major and minor or supporting fields.

Sixth-Year Certificate in Educational Administration

The sixth-year certificate in educational administration is offered for the preparation of school principals and supervisors, and is awarded after completion of requirements listed under the Graduate Department of Education.

Scholarships, Fellowships, and Assistantships

Graduate awards are administered through the committee on graduate awards under the chairmanship of the dean of the Graduate School.

Brigham Young University Fellowships and Scholarships. The University has established the following fellowship and scholarship offerings for graduate students:

- 60 scholarships for the payment of tuition and standard fees
- 50 fellowships ranging in value from $400 to $2,000 including tuition and standard fees

Scholarships and fellowships are awarded on the basis of high academic achievement and are available to students in all areas of graduate study. Recipients must possess a baccalaureate degree at the beginning of the period for which the scholarship or fellowship is granted and must be candidates for a graduate degree. A scholarship recipient may hold a one-half time departmental teaching assistantship concurrently with his scholarship. A fellowship recipient may hold up to one-quarter time teaching assistantships during his fellowship tenure. Applications for the academic year beginning in September should be filed by the preceding March 1.

National Defense Education Act. The University participates in Title IV of the National Defense Education Act. Announcements concerning the Title IV 3-year awards are usually released in November with a deadline acceptance date of March 1.

National Science Foundation. The University cooperates with the National Science Foundation, and fellowships under this program are available in several fields.

National Aeronautics and Space Administration. The University cooperates with NASA for student traineeships in space-related areas of the sciences.

Application. Information regarding scholarships and fellowships may be obtained from the Graduate Awards Office, Room D-227 Abraham O. Smoot Administration and General Services Building.

Teaching and Laboratory Assistantships. Many departments employ graduate students as teaching or laboratory assistants. Assistantships are awarded on the basis of scholastic accomplishment and competence to serve in a specific department. Remuneration, based on the amount of time devoted to assigned duties varies from $850 to $2,000 per academic year. For application forms and information regarding teaching assistantships the graduate student should write directly to the chairman of his specific academic department in the University.

Research Assistantships. A substantial number of research assistantships and research fellowships are available at Brigham Young University. Recipients work part time on research projects under the supervision of a faculty member. Funds are provided by the University, the government, or private sources. Remuneration for assistantships varies from $1,600 to $2,800 per calendar year. For application forms and information regarding research assistantships the student should write directly to the chairman of his specific academic department in the University.

SUMMER SESSION

Graduate students doing part of their work at the University during the summer will find a wide range of graduate courses suited to their purpose. Summer School is divided into two terms. Students may register for a maximum of six credit hours per term.

LIBRARY FACILITIES

The Brigham Young University library presently is expanding its research collections on a major scale. With the completion of the J. Reuben Clark, Jr., Library Building in 1961 it was possible to bring together parts of the collection that had been temporarily housed in almost every major building on the campus. The general collection is available on open shelves on four of the five floor levels: two below and two above the ground floor. The central reference collection, the public catalog, the circulation desk, and the adminstrative offices are located on the ground level. An information booklet is available to assist students in the use of these new facilities. Study space is available on each floor interspersed with stack areas. Special study facilities are provided for the use of graduate students and other mature scholars.

With the growth of the collection an effort is being made to acquire those library tools necessary to a graduate research program. A well-trained staff is available to assist scholars in the use of the book collection and to interpret the specialized bibliographies, catalogs, guides, and indexes.

The University library contains an extensive collection of titles on microfilm and microcards. A wide selection of professional journals and of other current periodicals is also available, as well as local, regional, and national newspapers.

The facilities of the L.D.S. Genealogical and Historical Library in Salt Lake City, which contains over 500,000 titles, also are available by special arrangement, as are collections of Utah and Mormon materials in the L.D.S. Church Historian's Library in the same city.

THE GRADUATE CATALOG

For more detailed information on graduate degrees, admission to the Graduate School, and departmental offerings and requirements, refer to the Graduate School Catalog.

THE INSTITUTE OF GOVERNMENT SERVICE

Stewart L. Grow, Director

One of the greatest challenges facing mankind is to develop attitudes and techniques which permit people to live together happily and safely. As man invents more devices of communication, transportation and warfare, and at the same time rapidly increases his numbers and concentrates them in larger and larger cities, the problems become more and more complex. The result is that the problems facing government at all levels, international, national, state and local, grow more challenging. Trained personnel of good moral character and high motivation are needed to meet these challenges. To train such personnel, the Institute of Government Service has been organized at Brigham Young University.

The Institute of Government Service offers graduate training in public administration in three major areas: (1) International Affairs, (2) National Administration, and (3) State and Local Administration. Studies in the institute lead to the master of arts or master of science degree depending on the nature of the course work taken. The type of training given in the institute is interdepartmental in nature and attempts to widen the student's knowledge and perspective so that he will be qualified to make decisions in areas where complicated and contradictory forces are at work. Courses are taken in a number of departments and are arranged to supplement the student's undergraduate training and to give him additional classes in areas in which he may have had little or no previous work.

To be admitted a student must possess a bachelor's degree from an accredited university and meet the requirements of Brigham Young University for admission to graduate study. Students may be admitted from a variety of backgrounds. Those who have majored or minored in political science, economics, history, psychology, sociology, business, geography, languages or engineering will generally possess good training. Entering students are required to have adequate preparation in such fields as national history, national government and basic economics. If the student lacks such background, he is required to take lower division courses which will not be counted toward the master's degree.

The master's degree may be awarded following the completion of either of the following options:

(1) 30 hours of acceptable graduate credit including a master's thesis.

(2) 40 or more hours of acceptable graduate credit including a project.

Graduates have entered foreign, national and local governments. Others have entered business where their knowledge of government has been valuable in international trade, government contracting and governmental and business relations. Another group has found employment as teachers in junior colleges and high schools. Many have continued work toward the Ph.D. degree.

A detailed outline of the program of the Institute of Government Service may be found in the Brigham Young University graduate catalog.

Applications for admission should be directed to the dean of the Graduate School, Brigham Young University. Inquiries regarding the program may be addressed to the director, Institute of Government Service, Brigham Young University.

Colleges

Each college in Brigham Young University is an undergraduate college which offers work for the bachelor's degree only. All work beyond the bachelor's degree, in every department, is under the direction of the dean of the Graduate School.

College of Biological and Agricultural Sciences

Rudger H. Walker, Dean (106 HGB)

The departments in the College of Biological and Agricultural Sciences fall naturally into two primary divisions: biological sciences and agricultural sciences.

DIVISION OF AGRICULTURAL SCIENCES

Included in the Division of Agricultural Sciences are the Departments of Agricultural Economics, Agronomy, Animal Science, and Horticulture. Students taking their major work and supporting courses in these departments and in the related basic sciences may prepare themselves for successful careers in agriculture.

Agriculture always has been America's basic industry, and is more important today than ever. The agricultural industry has developed as rapidly as other industries in America in mechanization and efficiency of production. The men and women engaged in agricultural production and marketing, and in the related agricultural industries must have an understanding of the new scientific and technological developments that have taken place in agriculture. This, along with practical experience, will better prepare them to serve as farm managers and operators and as technicians in the various phases of agricultural production, marketing, research, and education and in the related agricultural industries.

All students interested in agriculture will be given an opportunity to obtain a broad understanding of the various phases of agriculture. In addition, they may specialize by taking a major in one of the departmental curricula. Students may choose a course of study that will prepare them for farm and ranch operation and management, for employment in related agricultural business or industries, for employment with governmental organizations under civil service, or for teaching and research. For certain kinds of work it will be necessary to place strong emphasis on preparation in the basic sciences and on graduate study for an advanced degree.

Students who have had a background of farm experience and training in vocational agriculture in high school, who are interested in agriculture, and who think they would enjoy working in the agricultural professions are encouraged to register in the College of Biological and Agricultural Sciences. Students who prepare themselves well usually have little or no difficulty in finding satisfactory employment.

AGRICULTURAL EDUCATION

Adviser: Rudger H. Walker

Students who wish to prepare for teaching agriculture should take a major in agricultural education and follow the curriculum outlined in the List of Courses Section under the heading Agricultural Education.

PREVETERINARY COURSE

Adviser: Keith H. Hoopes

Students planning to enter veterinary school may take their preveterinary training at Brigham Young University.

Certain entrance requirements are common to all of the veterinary schools in the United States. The courses listed below are designed merely as a guide to help the student fill these basic requirements. The student is advised to consult the catalogs of veterinary schools of his choice for specific entrance requirements that may affect him. In connection with his preveterinary curriculum the student is strongly urged to work toward a bachelor's degree, including course work in animal science and the basic sciences. A bachelor's degree intensifies the student's ability to understand the principles of veterinary medicine and provides an alternative should the student fail to enter veterinary school.

The following courses are included in the entrance requirements of most veterinary schools: English 111, 112; Mathematics 101, 105, 106; Chemistry 105, 106, 223, 351, 352; Zoology 105, 212, 213; Physics 201, 202; Botany 101; Bacteriology 121; Animal Science 121, 153, and 207. Attention also is called to the general University requirements for graduation. Students planning to enter veterinary school are not exempt from these general education requirements.

DIVISION OF BIOLOGICAL SCIENCES

Included in the division of biological sciences are the Departments of Bacteriology, Botany, and Zoology and Entomology. Students may take courses in any one of these departments to meet their general education requirements for studies in the biological sciences, or they may choose to major in one of these departments.

Courses offered in these departments enable students to obtain a general understanding of the fundamental principles of plant and animal life and the relationships of plants and animals to man and the world in which he lives. Consideration is given to the economic plants and animals used in agriculture and industry, the native and wild plants and animals, the beneficial and injurious insects and micro-organisms, and the parasites responsible for the diseases of plants, animals, and man. The conservation of our natural resources and the management of forest and range lands and wildlife resources are studied. Specialized courses are offered in each of the several branches of the biological sciences for those students who wish to major in one of these fields. Preparation for teaching and research is emphasized.

Students interested in medical technology, medicine, dentistry, forestry or veterinary science may obtain their preprofessional training in the Division of Biological Sciences. Suggested curricula to serve as a guide for students who wish to prepare for these professional fields are shown below.

PREFORESTRY COURSE

Adviser: Kent H. McKnight

Students may prepare themselves for training in forestry by taking the preforestry curriculum during their first two years of college work. This program is under the supervision of the Department of Botany.

During the freshman and sophomore years students are registered for the basic science courses and the general education courses required for training in forestry. Upon completion of this preforestry program they may enroll in a professional forestry school for their major work.

Students should consult the faculty adviser of the preforestry curriculum for detailed information and for assistance in developing their class schedule for registration.

RANGE MANAGEMENT COURSE

Adviser: Earl M. Christensen

Administration of the range management program is under the direction of the Department of Botany, but the range curriculum is drawn from courses offered in several cooperating departments. The complete course requirements are given in the Botany Section of this catalog.

Students should consult the faculty adviser in range management for detailed information and for assistance in developing their class schedules for registration.

PREPROFESSIONAL PLANS FOR MEDICAL AND DENTAL STUDENTS

It is strongly recommended that students who wish to prepare for medical or dental school select course work that will lead to the bachelor's degree. This will give the broad background desired by medical and dental schools, and also will prepare students to enter other professional work in the event their interest in medicine or dentistry does not continue.

Premedical and predental students may follow one of several plans to prepare themselves for professional school:

Plan I. Prior to entering a professional school, complete course work leading to a Bachelor of Science degree in any university department. The elective courses must include those minimum requirements listed in Plan III.

Plan II. Complete three years of specified work at Brigham Young University in the Department of Zoology and Entomology, and transfer to this University acceptable credit for the courses completed in the first year of medical or dental school, thereby satisfying the requirements for a baccalaureate degree. (See basic Medical Sciences Option under the Department of Zoology and Entomology.)

Plan III. Complete minimum course work required by a professional school for entrance, not including a baccalaureate degree. The student is advised to counsel with his university adviser in examining the subject requirements described in the school catalog for the school of his choice. About two years of selected course work will meet these minimum requirements for dental school while three years are required for the medical schools. For the most part the following courses are required: English 111, 112; Math. 101; 105 and 106 or 111; Chemistry 105 and 106, or 111 and 112; 351, 352, 354, 355; Physics 201, 202; Zoology 105, 212, and 213 or 363. In addition, some medical schools will require Chemistry 223 and Zoology 373, and/or 376. These are **minimum** course requirements.

PREMEDICAL AND PREDENTAL COMMITTEE

Arthur O. Chapman, Chairman

The committee will give guidance to students in their course of study. Students who wish to prepare for entrance into a dental or medical school should consult the chairman of this committee for information concerning medical and dental schools on course work and procedures.

PREDENTAL HYGIENE

Adviser: Arthur O. Chapman

Schools of dental hygiene are located at most dental schools and at a few other colleges. The course of instruction is either two years in length, leading to the Certificate in Dental Hygiene, or four years, leading to the bachelor's degree in dental hygiene. The four-year program is strongly recommended. The two-year program may be entered directly after high school, although preference is given to candidates with some college training. The four-year program requires that the first two years be spent in college and the last two in a dental hygiene school. Details of the first two years of training will depend upon the hygiene schools to which the student applies and may be determined in consultation with the adviser.

Students should have a catalog of the dental hygiene school in which they are interested when they consult with the adviser, as the program in each school varies considerably.

PREOPTOMETRY COURSE

Adviser: Arthur O. Chapman

The requirements for admission to schools and colleges of optometry are not identical. Typically, the requirements include courses in English, mathematics, physics, chemistry, and biology or zoology. Schools have varied requirements in psychology, social sciences, literature, philosophy, and foreign language. For details consult optometry school catalogs and counsel with the preoptometry adviser.

PREPHARMACY COURSE

Adviser: Arthur O. Chapman

Two years of the curriculum of any pharmacy school may be completed at this campus. For specific details the student should consult the adviser.

College of Business

Weldon J. Taylor, Dean (154 JKB)

Majors are offered in the following departments in the College of Business:

Accounting
Business Education
Business Management
Economics
Statistics

MASTER OF ACCOUNTANCY PROGRAM

The professional degree, Master of Accountancy (M.Acc.), is offered in the College of Business. The program is available to those with undergraduate degrees in accounting or in other departments. For further information, contact the chairman of the Accounting Department.

M.B.A. PROGRAM

In response to a growing demand for responsible, creative leadership in our business and industrial society, the University has developed a professional program leading to the awarding of a Master of Business Administration degree. This program is designed to serve qualified students from all areas of the University regardless of their undergraduate major. Students contemplating an M.B.A. degree are advised to take a broad program in their undergraduate work. For further information, contact the director of the M.B.A. Program.

OBJECTIVES OF THE COLLEGE OF BUSINESS

The purpose of the College of Business is to provide educational experiences which will enable the student to acquire a broad understanding of the interrelations between the business firm, the economy, and society; offer sufficient specialization to enable the student to find a rewarding position in the business world; and assist him in developing a sense of business ethics.

The program is directed toward the achievement of the following specific objectives:

1. Developing skill in the use of quantitative data and theoretical tools in analyzing the problems and policies of the economy and the business firm.
2. Developing an understanding of the human and social aspects of business.

3. Assisting the student to develop those emotional and intellectual capacities which will foster mature and competent judgment.

4. Stimulating both students and faculty members to engage in research and other creative activities to the full extent of their ability and resources.

5. Helping the student acquire the capacity to communicate ideas orally and in writing.

DIVISION OF BUSINESS FUNDAMENTALS AND COLLEGE CORE REQUIREMENTS

All students registering in the College of Business will register in the Division of Business Fundamentals until they have completed the College of Business lower-division core course requirements and have completed at least 62 semester hours of approved university credit. Core courses in the lower division are as follows:*

Accounting 201, 202, 232	9 hours
Economics 111, 112	6 hours
Mathematics 108 (or equivalent)	3 hours
Statistics 221	3 hours

*Business education and economics majors, please note variations in college core requirements as listed in the departmental sections of this catalog.

Upon completion of these requirements, students who have earned a 2.25 grade-point average in the above-mentioned core courses will be permitted to transfer to the department in which they intend to specialize and graduate.

Mathematics 108 and Statistics 221 listed above apply toward the specified mathematics, statistics, logic, and science sequence of courses.

Economics 111 and 112 listed above apply toward the University general education requirements in social sciences.

In order that all students who plan to graduate with a major in any of the departments of the College of Business (except business teaching majors) may benefit from a common background of basic information and tools to help in their advanced work, they are also required to take the additional core courses listed below. Normally these courses will be completed during the junior year.

Accounting 342	3 hours
Business Management 347, 348, and 340 or 420	9 hours
Economics 311 or 312	3 hours

Business education majors may make the following substitutions: Business Education 305 for Business Management 340 or 420; Economics 274 for Economics 311 or 312; Economics 453 for Business Management 348.

Economics majors may substitute Economics 453 for Business Management 348.

Consistent with Objective 5 mentioned above, it is recommended that all College of Business students take Business Education 320.

College of Education

Antone K. Romney, Dean (118 McKay)

The College of Education has as its principal function the educating of teachers, counselors, school librarians, principals, supervisors, superintendents, and other professional workers in education.

The following departments are in the College of Education:

Teacher Education
Graduate Department of Education

Office of Educational Research. In addition to the above departments the College of Education has established an Office of Educational Research. This office conducts research projects approved by the college, assists in conducting other educational research projects, and stimulates research on educational problems on the part of faculty members, students, and others. It assists in the planning of research projects being carried out at the University, in school districts of the area, and by other educational groups or agencies. It also assists by recommending capable consultants from the departments to advise and supervise such projects. The program provides some opportunity for graduate students to participate in ongoing research projects and assist in planning their own research programs.

Elementary School Teaching. A student interested in elementary school teaching should register in the College of Education immediately. The program is largely prescribed from the beginning of the freshman year. Late entrance into the college may delay graduation and certification beyond the usual four years. For course listings and prerequisites see the Teacher Education Section of this catalog.

Secondary School Teaching. A student who plans to prepare for a career in high school teaching and related activities may do so either by registering within the College of Education or by registering in one of the other colleges of the University. In the latter case he must complete the required professional education courses and the necessary subject-matter, and other courses for the teaching certificate under the joint direction of an adviser in the College of Education and an adviser in his major college. For course listings and prerequisites in this area, see the Teacher Education Section of this catalog.

Special Education. A student interested in preparing to teach classes for students with intellectual handicaps, motor impairments, visual disabilities, or hearing handicaps should plan his program with the coordinator of special education during his freshman year. Individuals who certify in these specialized areas must also obtain regular elementary or secondary teaching certificates. Early planning will enable the student to complete requirements for provisional certification in special education along with his regular four-year program. Programs for professional certification in the above areas of specialization and in remedial teaching in classes for the academically handicapped are provided in the Graduate Department of Education. Students interested in speech and hearing correction should contact the Speech Department.

Indian Education. Students interested in teaching Indian children are encouraged to enter either the elementary or secondary teacher certification programs. While students are completing these programs, they may take certain Indian education courses to enhance teaching competency. As each student applies for student teaching, he indicates his desire for a teaching assignment in a public school with Indian students. To provide even greater background the Indian Studies minor is available to those seeking the teaching certificate. For further information, contact the coordinator of Indian education in the College of Education.

Junior College Teaching. The College of Education provides appropriate training for graduate students who are interested in junior college teaching. Students who are registered with the Graduate School in a program leading to a master's degree in an academic subject matter area may complete the requirements for a junior college teaching credential by enrolling in professional education courses offered in the Graduate Department of Education. Further information is available through the Graduate Department of Education, Room 205 McKay.

Administrative-Supervisory Certificate. Students seeking certification as administrators and/or supervisors in Utah must give evidence of at least three years of successful teaching experience, of having a valid teaching certificate, and of having taken twelve semester hours of specified graduate course work. In addition, secondary school administrators and supervisors must give evidence of having completed a master's degree or its equivalent in course work which may include the twelve semester hours. For course listings in this area, see the Graduate Department of Education.

Curriculum and Instruction. Qualified students seeking specialization in the areas of curriculum and instruction may pursue work leading to the Master of Arts, the Master of Education, or the Doctor of Education degrees. The exact requirements of these programs are found in the Graduate School Catalog. Specific graduate courses are also listed under the Graduate Department of Education in this catalog.

Counseling and Guidance. Certification as a school counselor in Utah requires approximately one year of graduate work in counseling and guidance plus two years of successful teaching experience. For course listings in this area, see the Graduate Department of Education.

School Psychology. The Graduate Department of Education and the Psychology Department jointly offer a program leading to state certification as a school psychologist. This program requires a master's degree and ordinarily takes two years beyond the bachelor's degree to complete. To be certified in Utah the person must have a valid teaching certificate. It is also highly recommended that he have at least a year of teaching experience at either the elementary or secondary level.

Secondary School Principalship. Certification as a secondary school principal in Utah requires a minimum of three years of successful teaching experience, five years of study in an accredited college or university terminating in the master's degree (of fifty-five quarter hours —37 semester hours— of credit in graduate study—including a minimum of eighteen quarter hours —12 semester hours— of work selected from three or more areas related to school administration). The courses listed in the Graduate Department leading to the master's degree in educational administration enable the candidate to obtain the Administrative-Supervisory Certificate for Secondary Schools.

Teaching as a Second Career. A student preparing for a career in a field other than teaching may provide himself with a second possibility for employment by meeting the requirements for certification as a teacher while he is completing the other preparation. By planning early in his career, he may do this within the usual scope of the baccalaureate program and with little or no interference with the major program. It should be noted that at present this is particularly feasible for high school teaching, where depth of preparation in two or three subject-matter fields is desired, but it also may be possible under special arrangements in the elementary school program.

Early Decisions Desirable. In either case the student is urged to make the decision as early as possible in his college career to avoid conflicts in the scheduling of courses and to take fullest advantage of the maturing effect produced by spacing the study of teaching over a period of time.

How to Proceed. Those who decide to register in the College of Education should transfer to that college at once. All others will register in the colleges in which they are majoring. **Every candidate for a teacher's certificate, however, regardless of the college in which he is registered, must have his certification program approved in the Teacher Certification Office, Room 111 McKay Building, before he enters Teacher Education 301, the first course in the professional education sequence.**

Cycle Organization. To insure adequate facilities and opportunity to take classes, it has been necessary to organize the programs of the College of Education into cycles. Students in elementary education enter the cycles as beginning freshmen according to alphabetical listing of surnames. Students in secondary education are placed in the appropriate cycle according to subject-matter department. Inquiries concerning the proper cycle may be made in Room 111 McKay.

Because it is necessary to keep the cycles balanced, students will not be admitted to the first course without proper approval of their programs.

Students not meeting the academic and other standards of the University may be asked to withdraw from the teacher certification program.

All students in the teacher certification program will be required to meet minimum standards in speech and hearing. Speech and hearing tests may be given as part of the course requirements in the first course in the certification cycle.

Each student who undertakes preparation for teaching will be provided with a brochure describing the requirements and procedures. He will be expected to keep a record of his program and his progress.

How to Become Certified. A student who completes the certification requirements set forth by the College of Education, regardless of the college in which he is registered, is eligible for a certificate issued by the Utah State Board of Education. Certification is approved by that board after application for certification has been made personally by the student through the dean of the College of Education, who in turn recommends the student to the state board.

Students will be held for certification requirements under the catalog in effect during the year in which they were admitted to the education program.

A student may prepare himself to be certified as any of the following:

Teacher in kindergarten
Teacher in elementary schools
Teacher of special classes for handicapped children
Teacher in secondary schools
Teacher of industrial arts in secondary schools
Teacher of vocational homemaking in secondary schools
Teacher of unit shops in industrial arts
Librarian in secondary schools
Teacher in junior college
Counselor
Administrator-supervisor in elementary schools
Administrator-supervisor in secondary schools
Superintendent

Certification in Other States. Students planning to teach in states other than Utah should check with the Teacher Certification Office, 111 McKay, for the special requirements of those states.

Basic Professional Certificate. Certification of teachers is a function of the Utah State Board of Education. The Board of Education publishes requirements for certification in booklet form and in supplements. The present policy of the board is one of stating minimum requirements in general terms. This is done to encourage the institutions that prepare teachers to engage in continuous study of the requirements, going beyond the minima in whatever ways seem desirable. While the board is always able to certify a candidate without recommendation from a university, it chooses to require the recommendation of the dean of the College of Education in each institution. This requirement is of assistance not only to the state board, but also to the institution because of the assurance that its efforts to improve the program of preparation will not be made ineffective by the ready availability of ways of going around the minimum requirements.

Alterations in the requirements may be made from time to time. They will not be made retroactive in the case of any student, but may be made to apply to uncompleted portions of his program where this can be done without difficulty.

Requirements for Dual Certification. An individual who has met the requirements for a general elementary school certificate may obtain a general secondary school certificate by meeting certain additional requirements. The state's requirements for subject-matter major, minor, or composite teaching major must be completed. In addition, the individual must complete certain courses in methods of teaching and in student teaching at the secondary school level. An individual who has met the requirements for a general secondary school certificate may obtain a general elementary school certificate by completing certain courses in methods of teaching and in student teaching at the elementary school level. Specific instructions for these programs are available in the Teacher Certification Office, Room 111 McKay.

Professional Certification Program for Teachers in Service. Advancement in teaching, both professionally and economically, requires study in some depth beyond the bachelor's degree. State departments of education increasingly are raising certification standards to the level of a five-year preparation program. To meet this need Brigham Young University offers a carefully planned fifth-year program. It consists of the equivalent of a master's major or minor in professional education, with a major or minor in the teacher's subject-matter field. Details of the program may be had through the Teacher Certification Office, Room 111 McKay. The program outlined by the University will meet the requirements of the five-year professional certificate of most states.

Selection of Candidates. Candidates for certification as teachers should expect to be carefully selected, even though their interest in certification is secondary to another career at the time. Only individuals of high caliber who have acquired a substantial general education, whose mastery of their major and minor fields is unquestioned, and whose personal character reflects the best ideals of our culture will finally be recommended for certification.

The selection of those who will be finally recommended for certification is a continuous process. It begins when the student first announces his intention of seeking certification. It continues through all stages of his education. Among other things, it is necessary to maintain a Brigham Young University cumulative grade-point average of 2.25 or better to remain in the program ("C"=2.00).

Students Transferring from Other Colleges. To transfer from another university to the College of Education at Brigham Young University the student must have a cumulative grade-point average of 2.25 or better.

Students transferring to the College of Education from another college within Brigham Young University must have a Brigham Young University cumulative grade-point average of 2.25 or better.

To continue to take sequence courses in professional education or to remain in the College of Education the student must maintain both a Brigham Young University cumulative grade-point average and a semester grade-point average of 2.25 or higher.

THE LABORATORY SCHOOL

Coordinator: Lowell D. Thomson

Administrative Assistant: Wallace E. Allred

Principal, Elementary School: Vermont Harward

The Laboratory School operates as a service unit to the College of Education with the dean of this college serving as its chief administrator. Serving under the dean is a Laboratory School coordinator who is responsible for the direction and actual operation of the combined elementary and secondary schools. Working with the coordinator is an elementary school principal who administers the activities of the elementary program, and an administrative assistant who serves essentially as vice principal in the operation of the secondary school.

The faculty consists of some forty-five specially selected teachers. These teachers are charged with the responsibility not only of teaching their respective subject areas but also cooperating closely with other faculty members of the College of Education in conducting a vigorous experimental program through which many promising ideas in the field of education are tried and tested.

The Laboratory School assists the College of Education in the preparation of teachers by providing observations, demonstrations, and other laboratory experiences for teachers and school administrators in training. Those who desire to visit the school should make arrangements through the principal of the elementary school or the administrative assistant's office of the secondary school.

In keeping with the laboratory functions of the school, pupils are frequently under observation and study, and classes are subject to various kinds of experimental treatment for the purpose of improving instruction. Regardless of these functions, however, the instruction is kept at a high level of quality, since one of the principal purposes of the school is to demonstrate superior educational practices for the benefit of teachers-in-training and teachers-in-service.

Moral and religious education is a constant part of the instruction in this school. Through the L.D.S. Seminary System a seminary principal serves as one of the faculty members of the school, and it is under his direction that the religious instruction is carried out. Pupils are admitted under the assumption that they will adhere to L.D.S. standards of personal conduct, dress, and morality. Observance of these standards is a requirement for continued enrollment in the Laboratory School. Pupils are also required to observe the Utah compulsory school attendance law.

Enrollment in each grade of the Laboratory School is limited to the number of pupils for whom adequate educational services can be provided. Pupils are accepted on the basis of established criteria which are important in carrying on the unique functions of the school. Applications for admission should be filed with the registrar beginning January 1 of each year. Forms for this purpose are available in the Registrar's Office, 298 Education Building, Brigham Young University, Provo, Utah.

Pupils admitted to the Laboratory School are privileged to have access to many University facilities, such as libraries, gymnasiums, laboratories, shops, athletic fields, and auditoriums.

Elementary Laboratory School

The elementary section of the Laboratory School covers the range from the kindergarten through the sixth grade.

A staff of well-qualified instructors, together with the facilities offered by the University and the assistance given by special supervisors, provides a wide range of experiences for the children. Much attention is given to individual needs and interests and to the development of special abilities of pupils. The elementary program includes instruction in art, crafts, and vocal and instrumental music. The physical fitness program is also emphasized in elementary school.

The school serves as a laboratory for educational research and experimentation, and is a center for the preparation of teachers in elementary education.

Secondary Laboratory School

Pupils completing the first six grades are regularly transferred to the junior high school. In addition to this, an equal number of carefully selected students are enrolled from neighboring elementary schools. In the junior high school departmentalization begins, which permits variations in courses and a wide range of contact with expert instructors. Broad exploratory experiences are provided.

Pupils completing the three years of work prescribed for the junior high school are admitted to the senior high school. Pupils graduating from the senior high school are expected to have completed eighteen units of study in three years, ten through twelve. Equal credit is given in all subjects for equal amounts of time spent in the classroom. One unit of credit is granted for each class which meets five days per week for thirty-six weeks. All required classes must be included in the program of each pupil who qualifies for graduation.

A rich program of athletic and social activities is provided for secondary school pupils under the direction of the faculty and the student body organizations. Pupils participate in interscholastic athletics, speech, art, music, and commercial competition. High school students also have the advantage of participation in selected activities sponsored by the University. This participation, however, is limited to events for which University demands do not overcrowd the facilities.

Brigham Young University High School is a member of the Utah High School Activities Association and meets all requirements of the Utah State Board of Education. It is also a member of the Class A Region IV Activities Association. The school is accredited by the Northwest Association of Secondary and Higher Schools.

Program of Studies

Junior High School. The junior high school organization is designed to assist children in the transition from the elementary to the secondary school. The academic curriculum is arranged to fit the particular needs of this age group and to prepare them for wise selection of course offerings in the senior high school. Seventh and eighth grade students plan and conduct their own social and recreational activities under the direction of faculty advisers. Ninth graders are considered to be members of the senior high school student body in the Laboratory School but participate in the social activities of the high school only to a limited extent.

7th Grade subjects:
- Required: English, social studies, mathematics, reading, speech, health and physical education, and general music.
- Electives: chorus, band, Spanish, German, study skills and journalism.

8th Grade subjects:
- Required: English, social studies, mathematics, general science, typing, art, physical education, vocal music, and industrial arts or homemaking.
- Electives: chorus, band, algebra, Spanish, German, journalism and study skills.

9th Grade subjects:
- Required: English, social studies, science, mathematics, physical education, and religion.
- Electives: algebra, typing, chorus, band, art, industrial arts or homemaking, speech, French, German, Spanish, and journalism.

Senior High School. Students desiring to graduate from B.Y.U. High School and to qualify for college entrance at the same time must complete the following requirements (A unit of credit is given for any subject that is taken five times a week for thirty-six weeks):

1. A total of eighteen units is required in grades 10, 11, and 12.
2. One unit of physical education. Students who have some physical disability may be excused from this requirement upon presentation of a statement from the family physician attesting to this fact.
3. One-half unit of health.
4. One-half unit of senior guidance.
5. One unit of mathematics selected from algebra, geometry, or general mathematics.
6. Three units of English.
7. Two units of social studies: American history and government, and either U.S. government and economics, development of civilization, or current history.
8. One unit of science.
9. While at Brigham Young University High School, the prescribed course in religious education must be followed satisfactorily by all students. One religion class each year is required until graduation from the seminary program (three units).
10. A broad selection of courses in the fine and practical arts is available to all students.

Senior students who have completed sixteen Carnegie units and have demonstrated outstanding academic ability may be permitted to enroll at the University subject to the usual University rules and regulations. In order to graduate from the high school, however, they must satisfy all of the graduation requirements previously listed. Under a special accelerated program, students in the tenth, eleventh, and twelfth grades who show unusual academic ability and who have completed all prerequisite course work at the Laboratory School may be permitted to enroll in one or more University classes for college credit while still a member of the student body at Brigham Young High School. Additional courses are available through the Home Study Department of the University to help students resolve programming difficulties.

SENIOR HIGH SCHOOL COURSES

Subject	Days		Year Taken	Credit
Practical Arts				
Industrial Arts I and II and Mechanical Drawing	5	Elective	9-12	1 unit
Homemaking I	5	Elective	9-12	1 unit
Home Living	5	Elective	10-12	1 unit
Business				
Shorthand I and II	5	Elective	11-12	1 unit
Typing I and II	5	Elective	9-12	1 unit
Bookkeeping	5	Elective	10-12	1 unit
Office Practice	5	Elective	11-12	1 unit
Language Arts				
English II	5	Required	10	1 unit
English III	5	Required	11	1 unit
English IV	5	Required	12	1 unit
Journalism	5	Elective	10-12	1 unit
Language				
French I and II	5	Elective	9-12	1 unit
German I and II	5	Elective	9-12	1 unit
Spanish I and II	5	Elective	9-12	1 unit
Speech				
Speech I	5	Elective	9-12	1 unit
Forensics	5	Elective	10-12	1 unit
Interpretive Speech	5	Elective	10-12	1 unit
Mathematics*				
Basic Mathematics	5	Elective	9-12	1 unit
Consumer Mathematics	5	Elective	9-12	1 unit
Algebra I and II	5	Elective	9-12	1 unit
Geometry	5	Elective	9-12	1 unit
Trig and College Algebra	5	Elective	9-12	1 unit
Calculus	5	Elective	9-12	1 unit
Science*				
General Science	5	Required	9	1 unit
Earth Science	5	Elective	10-12	1 unit
Biology	5	Elective	10-12	1 unit
Chemistry	5	Elective	11-12	1 unit
Physics	5	Elective	12	1 unit
Health, Physical Education, and Personal Development				
Physical Ed. I (boys and girls)	5	Required	10 & 12	1 unit
Health	2½	Required	10	½ unit
Senior Guidance	2½	Required	12	½ unit
Athletics	5	Elective	10-12	
Drill team (girls)	5	Elective	10-12	
Religious Education				
Book of Mormon	5	Required	9	1 unit
New Testament	5	Required	10	1 unit
Church History	5	Required	11	1 unit
Old Testament	5	Elective	12	1 unit
Fine Arts				
Art I and II	5	Elective	9-12	1 unit
Chorus	5	Elective	10-12	1 unit
Band	5	Elective	10-12	1 unit

Social Science**				
American History & Gov't.	5	Required	11	1 unit
World History	5	Elective	10	1 unit
U.S. Government & Econ.	5	Elective	12	1 unit
Current History	5	Elective	12	1 unit

*These subjects are only partially elective as one of this group must be taken.

**One of these courses is required in addition to American history and government.

College of Family Living

Virginia F. Cutler, Dean (1206 SFLC)

BACCALAUREATE DEGREE

The four-year academic program in family living provides first and foremost a broad liberal education, and second, preparation for a profession. All the colleges of the University contribute to the curriculum, providing background in the arts, humanities, and sciences to be applied and integrated into areas of specialization which may continue through the baccalaureate to an advanced degree. The college contributes to the total University community by offering courses designed to develop insight into and understanding about various aspects of family life.

Much of the work that was at one time confined to the home has moved out into the community and has resulted in highly specialized, professional services to all homes and families. Areas of specialization include child development and family relationships, clothing and textiles, food and nutrition, homemaking education, and housing and home management. These five areas constitute the departments of the college. Successful completion of the work prescribed in any one department is rewarded with the baccalaureate, which attests to the competency of an individual to assume such professional responsibilities in the community as teacher, dietitian (after internship), extension agent, or fashion designer.

REQUIREMENTS

Entrance into the college presupposes completion of three units of high school English and two units of high school mathematics, with background in chemistry, social and biological science, and home economics. All major curricula include work in the physical, social, and biological sciences and the humanities as well as some work in each of the college departments.

Students who graduate from the college are expected to have specialized training in one department and general knowledge in each of the others. They should develop some competency in planning for optimum health of the family through nutrition; in managing the home to make the best use of resources; in the purchasing and use of food, clothing, and shelter for maximum family satisfaction; in developing a creative home environment through an understanding of human development and family relationships. Each student is, therefore, required to have at least one course in each department outside the major.

Men who major in the college find promising professional opportunities in the following: clothing production and merchandising, textile testing, hospital dietetics, institutional food service, household finance and equipment agencies, child development centers, family welfare agencies, and teaching.

Women majors have these same opportunities plus those traditionally assigned to them, for example: fashion merchandising, home extension, household equipment demonstration, nursery education, and homemaking education.

Lines of demarcation between what is women's work and men's work are rapidly disappearing, and it is possible today for male or female to pursue any major interest and readily find employment opportunities on completion of training.

Freshmen of superior academic ability are urged to sign up in the dean's office for freshman seminar. Enrollment in one section is limited to eight students. Meetings are held for two hours once per week in the home or laboratory of a professor. The general purpose of the seminar will be to develop a broader and deeper interest in the family from a world-wide point of view. Considerable latitude will be given in the selection of subjects of special interest to the group.

AFFILIATION WITH THE MERRILL PALMER INSTITUTE

Through a cooperative arrangement with the Merrill Palmer Institute of Human Development and Family Life in Detroit, Michigan, the college sends several students to the institute each year. Seniors and second-semester juniors from any department are eligible. Criteria for selection are these: scholarship, professional interest, and worthy representation of the Church and the University. Credits earned at the institute are accepted and credited to the major field at Brigham Young University.

ASSOCIATE DEGREE

The associate degree program is designed for students who wish to make a profession of homemaking and at the same time develop abilities that may be put to use occupationally. The requirements in the 64-hour curriculum are specified as follows:

General Requirements .... 20 hours

English—6 hours, health—2 hours, physical education—1 hour, history 170—3 hours, religion—8 hours.

Group Requirements .... 12 hours

Biological science—3 hours, physical science—3 hours, social science—3 hours, humanities and fine arts—3 hours.

Departmental Requirements .... 32 hours

Courses are to be selected from clothing and textiles, food and nutrition, homemaking education, housing and home management, and child development. A student may choose to take most of the work in one department or combine studies from all departments depending on family and occupational goals.

Occupational options include: child study—leading to nursery school work; clothing and textiles study—leading to work in the merchandising and clothing industries; food and nutrition study—leading to work in food industries; housing and home management study—leading to work in housing and homemaking services; interdepartmental study—leading to such appointments as airline stewardess.

The two-year curriculum can be converted at any time to a four-year program leading to the baccalaureate. Assistance in program planning is available through the dean's office.

GRADUATE STUDY

Students who have completed all requirements for the bachelor's degree and who wish to continue their studies are registered in the Graduate School and are under the jurisdiction of the dean of that school. The college, through approval of the Graduate Council, provides curricula leading to the master's degree in child development, family relationships, and food and nutrition. The doctor's degree is offered in child development, family relationships, and marriage counseling. In order for a student to participate in these programs he/she must apply to the Graduate School and be admitted as a degree-seeking student. Because of attractive opportunities and a serious need for the contributions of highly trained professional persons, outstanding students are encouraged to pursue graduate studies.

PROFESSIONAL AND HONORARY CLUBS

Sigma Delta Omicron is a professional club affiliated with the Utah and American Home Economics Associations. Membership is extended to all students of the college. Special-interest sections of the club are sponsored by departments.

Omicron Nu is a national honorary society whose objectives are to recognize superior scholarship, to aid in the development of qualities essential to leadership, and to encourage research in the professional fields related to home and family living. Juniors and seniors of the college with high academic standing, ability in creative thinking, and potential leadership ability are eligible for election to membership. Graduate students meeting these requirements are also eligible.

SCHOLARSHIPS AND AWARDS

The college recognizes outstanding accomplishments of students at the college honors convocation. Following is a description of awards presented:

Class Awards

Zina Young Williams Card Award (established by Zina Y. C. Brown). A featherweight sewing machine is awarded to a freshman who has completed 31 credit hours with a grade-point average of 3.5 or better and who exemplifies the great qualities of the first teacher in the Ladies Work Department of Brigham Young Academy.

Sigma Delta Omicron Scholarship (established by Dr. Marion C. Pfund). A $150 scholarship is awarded to a sophomore who has completed 62 credit hours with a grade-point average of 2.65 or better with no grade lower than "C." Work must include six hours each of English and chemistry; three hours each of bacteriology, psychology, and food and nutrition; and two hours each of health and physical education. Recipient must have been an active member of Sigma Delta Omicron Home Economics Club for two years.

Elsie Maughan Belliston Library Award. Some professional books and/or periodicals are awarded to a junior having successfully completed 93 credit hours with a grade-point average of 3.0 or better. High ethical standards and dedicated professional interest also are considered.

Elizabeth Cannon Sauls Award (Established by Kiefer B. Sauls). A $50 scholarship is awarded to a deserving junior whose grade-point average, character, and professional potential are rated in the upper ten percent of the class.

Hazel Noble Medal. A precious gift for the home is awarded to a graduating senior whose womanly qualities, professional attitude, and scholastic interests are reflected in her daily living.

Gamma Phi Omicron Alumnae Award. An engraved silver tray is given to a senior of high scholastic standing who has demonstrated most adequately the ability to carry a dual role—that of homemaker and student.

Leah D. Widtsoe Memorial Award. A silver bowl is awarded to a senior of sterling character who has made significant progress during her years of study and who has gone the "second mile" to render service to classmates, college and university.

Rose Wallace Bennett Leadership Award (established by the Bennett Family in memory of their mother). A piece of luggage is awarded to a senior who has best demonstrated the ability to be an able leader in campus affairs as well as a good student.

Caroline R. Eyring Memorial Scholarship (established by Joseph C. Eyring). A $100 scholarship is awarded to a junior with a 3.5 grade-point average or better. Interest in professional training or graduate work and a high concern for the social welfare of others are attributes considered.

Highland Dairy Scholarship (established by Louis R. Curtis). A $100 scholarship is awarded to a junior having successfully completed 93 credit hours with a grade-point average of 3.25 or better. The recipient must show evidence of professional promise and have characteristics that are desirable in business. The person selected should plan on assisting with several Dairy Council projects during the senior year.

Elaine Ranker Monson Scholarship (established by Irene T. Ranker). A $100 scholarship is awarded to a junior who ranks in the upper 5 percent of her class. Professional attitude, ability to think critically, and interest in graduate work are considered.

Effie Warnick Memorial Scholarship (established by colleagues, students, and family of Effie Warnick). A $100 scholarship is awarded to a high school senior who ranks first in tests given to high school seniors on College Career Day and who enrolls at B.Y.U.

Woolgrowers' Scholarship (established by Delbert Chipman and son, Delbert Ray Chipman). A $100 scholarship is awarded to a junior having successfully completed 93 credit hours with a grade-point average of 3.25 or better. Candidates with professional promise and ability to assist with several woolgrowers' projects during the senior year will receive serious consideration.

Departmental Awards

Child Development

Achievement plaques to two seniors of distinction
Frances P. Barlow pewter pitcher to senior

The Betty Porter Memorial Scholarship (established by Credit Union, family and friends of Betty Porter) is awarded annually to a girl majoring in child development and family relationships. The recipient is selected on the basis of integrity, scholastic achievement, professional promise, and financial need.

Clothing and Textiles

May Billings Scholarship (established by Verda Griner). A $100 scholarship is awarded to a junior for outstanding accomplishment in clothing.

Maxine T. Grimm—hand-woven dress fabric to a senior.

Food and Nutrition

Susa Young Gates Memorial Scholarship (established by Leah D. Widtsoe). The sum of $50 is awarded to a junior who is particularly interested in pursuing nutrition studies related to the Word of Wisdom.

Homemaking Education

Achievement award to a senior student

Housing and Home Management

Achievement award to a senior student

Graduate Awards

Belle Wilson Hales Memorial Scholarship (established by Wayne B. Hales). A $500 scholarship is awarded to a senior or graduate student in the College of Family Living or to a graduate student from some other institution of higher learning who is transferring to the College at B.Y.U. The recipient is selected on the basis of scholarship, character, leadership, and community service (including school, Church, and community), and financial need.

Walter Ellis Trunnell Medal (established by Dr. Jack B. Trunnell). A gold medal is awarded to a graduate student who has demonstrated outstanding research ability through the development of a thesis, the results of which will benefit the family and the Church.

Asahel D. Woodruff Tuition Scholarship (established by a recipient of beneficences from the Woodruff family). A $200 tuition scholarship is awarded to a Ph.D. candidate who is engaged in studies related to home and family values.

College of Fine Arts and Communications

Conan E. Mathews, Dean (A-410 HFAC)

The following departments are in the College of Fine Arts and Communications:

- Art
- Communications
- Dramatic Arts
- Music
- Speech

The policy of the University has always provided for a liberal patronage of the fine arts. The organization of the College of Fine Arts in 1925 was the result of desire to offer students greater opportunities for better coordinated academic and professional growth. At the opening of the school year 1963-64 a Department of Communications was added to the college, and the name was changed to the College of Fine Arts and Communications.

With exceptionally well-prepared faculties who have undergone extended study in recognized schools and arts centers, and a new building designed and equipped to integrate all aspects of the fine and communicative arts, the college has become nationally known for the artistic and academic work done under its direction.

All courses offered in this college that lead to the baccalaureate are the cultural equivalent of other college courses offered in the University, differing from them mainly in respect to the emphasis placed on the study of the fine arts.

Majors are selected from the work offered in the departments; minors may be selected from them or from other departments in the University which offer allied work.

DEPARTMENT OF ART

The preparation of creative leaders in the various fields of the plastic and graphic arts and the education of appreciative audiences for these arts constitute the two-fold purpose of the Art Department.

Optional programs leading to a major in art are planned for those who are preparing for careers in art education, commercial art, interior design, painting, printmaking, sculpture, and ceramics, or for those who are pursuing a general course in art. All options lead to the Bachelor of Arts and Bachelor of Fine Arts degrees.

The Master of Fine Arts degree is a two-year program. A thesis is not required, but a one-man show and a terminal project are essential parts of the program.

Master of Arts degrees are offered in the fields of painting and sculpture and in design, which may include ceramics, crafts, interior design, print-making, and commercial art.

A collection of more than seven thousand original works of art, by both American and European artists, is owned by the University. Regularly changing exhibitions of work by contemporary artists also contribute to general appreciation and to the instructional program. Exhibitions of students' work are held regularly for analysis and criticism, and for furthering professional growth. The Department of Art sponsors a studio guild, an organization by and for the students, through which special lectures, demonstrations, and trips to galleries contribute to growth and interest.

DEPARTMENT OF COMMUNICATIONS

The principal objectives of the Department of Communications are to prepare qualified students for professional careers in the major areas of mass communication and to help all students in the University gain greater understanding of the mass media as they affect them in daily life.

The professional education program in communications offers specializations in the following areas leading to the Bachelor of Arts degree: Advertising and public relations; journalism (newspaper, magazine, and radio-television journalism); radio and television; and teaching of journalism. Graduate studies leading to the Master of Arts degree provide advanced courses and seminars in specialized areas of the discipline.

Course offerings are supported by laboratory facilities in the areas of advertising, reporting and editing, photography, and radio and television. Broadcasting instructional facilities include the studios of KBYU-TV and KBYU-FM. Students in advertising and journalism have opportunity to combine their instructional program with staff assignments on the Daily Universe, campus newspaper.

As a link between the student's academic preparation and his professional career, professional internships are arranged for qualified seniors and graduates. In these internships supervised experience is gained on the staffs of selected newspapers, magazines, radio and television stations, and advertising agencies and offices.

The department sponsors a series of lectures on communications throughout the year to bring students in contact with leading professionals and scholars in the field of communications. Professional activities are also stimulated by student organizations in advertising, journalism, and radio and television.

DEPARTMENT OF DRAMATIC ARTS

The Department of Dramatic Arts and the Department of Speech are administratively independent of one another; however, in order to more completely prepare the student for teaching in the schools and to meet the competition in professional theatre, the faculty members and courses from both departments are utilized to achieve these purposes.

The Department of Dramatic Arts seeks to develop the student through a broad, intensive program. Twelve major productions and many one-act and experimental plays constitute the annual offerings. Recently the department was highly honored in being chosen a second time by the American Educational Theatre Association and the USO to play at Far Eastern military bases including Japan, Okinawa, Korea, the Philippines, Guam and Hawaii. The department is now operating a major theatre, an arena theatre, and an experimental theatre, with the latest and most workable equipment to be found in any of the theatres of the United States.

The department holds membership in the American Educational Theatre Association, the National Theatre Conference, the Rocky Mountain Theatre Conference, and the Western Speech Association.

DEPARTMENT OF MUSIC

The main objectives of the Department of Music are to help each student attain through music the skills and proficiencies of an artist while he is gaining a broad general education; to develop talent to the highest degree possible; to train music teachers for a noble profession; and through association with distinguished artists and teachers, to help all B.Y.U. students acquire discriminating taste and sound critical judgment.

The Bachelor of Arts degree is available with majors in music theory and applied music. The Bachelor of Music degree is available with a major in music education. The master's and doctor's degrees may be taken in musicology, music theory, music education, and applied music.

Students who desire to become composers, arrangers, or music copyists, or who wish to teach theory of music should pursue a major in music theory.

Every music major studies a certain amount of applied music in order to develop proficiency on his major instrument or in voice. Students who wish to become skilled performers in order to qualify themselves to assume positions in the concert or professional world should major in applied music.

Prospective school teachers have the opportunity to major in vocal or instrumental music. Each program is designed to emphasize the essential aspects of preparation for teaching in public schools. The master's degree program in elementary or secondary school music is designed to prepare teachers, supervisors, and music consultants who can help classroom instructors teach music effectively.

A cultural atmosphere seldom equaled is provided through concerts and recitals, including visiting groups and artists. The Department of Music sponsors more than 150 concerts and recitals each year, not including the lyceum service provided by student body activities and by lyceum committees.

There is a musical organization for every student at B.Y.U. who is interested in singing or in playing a musical instrument.

DEPARTMENT OF SPEECH

Speech education is a combination program which includes specific courses from the Departments of Speech, Dramatic Arts, and Undergraduate Education, leading toward a teaching certificate in the state of Utah. The objective of these courses is to provide to students the skills, methods, research, and actual teaching experience to effectively teach speech and drama units on the secondary level. Those who wish to prepare for the challenge afforded in the teaching profession, and especially those interested in the area of speech education, are invited to correspond with us regarding this vital area.

The public address area of the Department of Speech provides practical training and experience to the general university student in public speaking, discussion and parliamentary debate. This is particularly applicable to the prelaw, business and teaching professions. In addition to course work several competitive speaking contests are sponsored to encourage speaking activities. These include the Donald C. Sloan Extemporaneous Speaking Contest on current events which offers $110.00 in tuition prizes, the Heber J. Grant Oratorical Contest on a faith-promoting subject, and the Delta Phi Extemporaneous Speaking Contest on religious topics. The department also sponsors the Speakers Forum at the close of each semester.

The B.Y.U. Forensic Association, under the direction of the Speech Department, offers an opportunity for all students to participate in competitive speech activities on both the intramural and intercollegiate levels. More than 160 students participate each year. Interested students in all fields of study participate in about thirty debate trips during the academic year. Students travel nearly 40,000 miles to many parts of the nation. During the past ten years (1955-65) B.Y.U. has qualified for the National Debate Tournament at West Point five times. Only thirty-six schools from among the nation's more than 2,000 colleges and universities are selected to participate in this tournament.

The speech pathology-audiology and speech science (also known as speech correction or speech therapy) areas of study prepare students in speech and hearing rehabilitation for positions with the public schools, community speech and hearing centers, university, and college clinics, hospitals, and private practice. The student deals with the diagnosis, elimination, and alleviation of speech defects or with the development and improvement of speech intelligibility. He also studies the function of the ear, impairments of hearing, and the education or re-education of the person with a hearing loss. The state certificate in speech and hearing therapy can be obtained from a four-year program. The national American Speech and Hearing Association certificate in speech pathology or audiology may be obtained from a master's program.

FINE ARTS COLLECTION

The fine arts collection of paintings, sculpture, drawings, etchings, engravings, monotypes, lithographs, and reproductions of works of art is as follows:

A. Memorial Collections.
   1. The Lee Greene Richards Collection of 36 paintings.
   2. The James T. Harwood Collection of 90 paintings, etchings, and drawings.
   3. The John Hafen Collection of 24 paintings.
   4. The Elbert H. Eastmond Collection of 64 paintings.

5. The John Willard Clawson Collection of 85 paintings and sketches.
6. The Maynard Dixon Collection of 85 paintings and sketches.
7. The Edwin Evans Collection of 61 paintings.
8. The Rose Hartwell Collection of 71 paintings.
9. The Rose Hartwell Crafts Collection.
10. The Joseph Imhof Collection of lithographs.
11. The Merlin A. Steed Collection of 70 paintings.
12. The Mahonri Young Collection of 304 sculpture pieces (bronze and plaster), 326 paintings, 5,308 water colors and drawings, 1,112 prints.

    Acquired with the Mahonri Young Collection are oils, pastels, drawings, water colors, etchings, and other prints totaling 2,116 pieces. Among the artists represented above are such names as Albert Bierdstadt, Clifford Beal, Camille Corot, Arthur B. Davies, William Glackens, Child Hassam, Winslow Homer, Edward Manet, Jean F. Millet, Joseph Pennell, John Twachtman, Dorothy Weir, J. Alden Weir, James Whistler, Harry Wickey, and others.
13. LeRoy Pharis Collection of 49 pieces of Chinese ivory carvings.

B. Other Utah artists represented: George M. Ottinger, Daniel Weggeland, Loris Pratt, John B. Fairbanks, Samuel Jepperson, Minerva Teichert, Alma Wright, Waldo Midgley, Calvin Fletcher, Cornelius Salisbury, Joseph Everett, Henri Moser, Torlief Knaphus, Avard Fairbanks, Henry Rasmussen, B. F. Larsen, Edgar M. Jensen, Glen H. Turner, J. Roman Andrus, Warren B. Wilson, Richard L. Gunn, and Lavieve H. Earl.

C. Other well-known national artists represented: Lee Randolph, George Elmer Browne, Fern Gary, Gordon Grant, Marie A. Hull, Haley Lever, Clarence Millet, Luis F. Mora, Chauncey F. Ryder, Matteo Sandona, W. Lester Stevens, Anthony Thieme, John Law Walker, J. Alden Weir, John Whorf, Eliot Daingerfield, George Pierce Ennis, John E. Costogan, George Henry Taggert, William Morris, Jon Corbino, J. Connaway, Robert Brackman, Peter Hurd, Marguerite Pearson, Henry W. Ranger, John Twachtman, John F. Carlson, Gene Kloss, Earle Loran, Emil Bistran, Umberto Romano, Lez Haas, Eric Bransby, Ralph Blakelock, Frederick E. Church, Thomas Cole, Thomas Doughty, Sanford Gifford, Thomas Hill, Dominique Ingres, George Inness, Eastman Johnson, John Kensett, Ernest Lawson, John Marin, Homer Martine, Pietro Rotari, Joshua Shaw, Everett Shinn, and Benjamin West.

D. Original etchings, lithographs and other prints, including the work of Ernest Fiene, Rockwell Kent, Joe Jones, Reginald Marsh, Waldo Pierce, Herbert Dunton, Boardman Robinson, Otis Dozier, Lawrence Barrett, John Taylor Arms, Kaethe Kollowitz, Gene Kloss, Conrad Buff, Reynold W. Weidenaar, Hans Erni, Fernand Leger, Glen Alps, Harry Sternberg, and Wendell Black. There are also 24 Rembrandt replicas.

E. Oriental art, including Japanese paintings, prints, and reproductions.

F. The Dr. O. K. Cosla Collection. Dr. and Mrs. Cosla of New York City have to date given B.Y.U. three paintings, one a large and important work exemplifying the Baroque style from the Studio of Rubens.

G. The Karel Waterman Collection. Karel Waterman, a Dutch collector and connoisseur of European art has given one large painting attributed to a disciple of Lucas Cranach.

H. The Dr. and Mrs. Burtis France Robbins Collection was given to Brigham Young University in 1962 and consists of a total of 25 paintings and prints.

I. Reproductions of famous works of art, including various types of modern art.

J. Large collections of slides, including natural color slides and the George K. Lewis Memorial Collection of Kodachrome slides.

LOTTA VAN BUREN COLLECTION

The Lotta Van Buren collection of ancient instruments and music contains rare old instruments, modern reproductions of ancient instruments, literature on ancient instruments, and a library of old instrument scores. In this collection are also some ancient costumes and pictures of interest.

Among the instruments, some of which were made in the Fifteenth Century, are the following: a viola da gamba (once owned by George Frederick Handel), five viols, a cittern, an Arabian lute, a two manual harpsichord, a virginals, an octavina, two clavichords, a hurdy-gurdy, and other such instruments.

The Van Buren collection is one of the few collections in the United States in which all instruments are in playable condition. Several concerts in which some of these instruments are used are given each year.

This unusual collection, housed in a specially equipped room (E 400, Harris Fine Arts Center), is open for inspection by the public.

Scholarships and Awards

Department of Communications

The following awards are presented annually to outstanding students in the department:

Deseret News Scholarship and Internship. A tuition award of $150 and a professional internship on the staff during the summer months for an outstanding junior in journalism.

Utah State Press Association Scholarship. A tuition award of $100 to an upper-division student planning to enter the weekly newspaper field after graduation.

Sigma Delta Chi Scholarship. A tuition award of $100 to a junior or senior man in journalism, presented by the Utah Headliners professional chapter of the national journalism society.

Earl J. Glade Scholarship. A tuition award of $100 to an outstanding junior in radio and television.

Mrs. Forace Green Scholarship. A $100 tuition award to the outstanding junior man in journalism, and a gold medal to the outstanding senior.

Dorothy Oakley Rea Scholarship. A tuition award of $100 to the outstanding junior woman in journalism.

General College

Lester B. Whetten, Dean (A-253 ASB)

General College has been added to the academic structure of Brigham Young University to meet more adequately the objectives and changing educational demands of the University. The college is designed to help students develop responsible citizenship in the Church and in the state, to acquaint them with their cultural heritage, and to lay the foundations for useful and productive lives in a democratic society.

Beginning with Fall Semester 1966, a program in general education will be offered to a limited number of students. The course content will be of a practical nature and will not lead toward a baccalaureate degree. Survey courses in the various sciences, home management, personal finance, the arts, and other courses will be offered. Those who complete these courses will be awarded a two-year diploma. These programs are recommended for students who do not desire, or for other reasons are not likely, to complete the four-year baccalaureate program.

To achieve the objectives of General College and to provide for other educational needs of students, the following divisions have been organized:

American Indian Education Program
Division of Provisional Registration

Guided Studies
Remedial Course Offerings
Two-Year General Education Program

AMERICAN INDIAN EDUCATION DEPARTMENT

Claude B. Duerden, Faculty Adviser to Indian Students

The Indian Education Department at Brigham Young University meets the needs of Indian students by offering work on the following levels:

Vocational (post high school)
Technical and semi-professional (2-year collegiate, terminal)
Undergraduate (4-year baccalaureate)
Graduate

All Indian students are asked to work out their individual programs with the adviser to Indian students, who will call upon the faculty of the various departments of the University to assist as required.

Indian Studies Minor

All students who plan to prepare themselves to work with Indian people should select a professional or occupational major and also pursue a minor in Indian studies. The Indian studies minor is designed for students who desire an appropriate understanding of Indian life and problems. This preparation should, thereby, enhance their professional effectiveness among native Americans.

Students who desire additional information on the Indian studies minor may contact the Indian Education Center in the House of Jacob. Students selecting the Indian studies minor, who are planning to teach, are urged to contact the coordinator of Indian Education in the College of Education early in their program.

Sequence Courses:	**Credit**
1. Religion 232, Missionary Approach to the Gospel (Special section: Understanding Lamanite Israel)	2
2. Anthropology 317, Introduction to Social Anthropology	2
3. History 364, The Indian in American History	2
4. Anthropology 320, The American Indian Today	2
5. Teacher Education 377, Teaching Procedures (Indian Ed.)	3
Electives (See Indian Education Adviser)	4
Total hours required for Indian studies minor.	15

DEPARTMENT OF GUIDED STUDIES

Howard T. Reid, Chairman

Students admitted to the University on academic warning come under the jurisdiction of the Department of Guided Studies, which helps these students develop abilities and skills that will allow them to compete more effectively with other students at Brigham Young University. Special assistance is available in such areas as reading, writing, mathematics, spelling, and effective study.

For further information regarding this program see the Guided Studies Section of this catalog.

DIVISION OF PROVISIONAL REGISTRATION

Dale Goodson, Chairman

Each year many students come to the University undecided as to their major field of study. These students register in the Division of Provisional Registration. In this division, students are assigned a registration adviser who assists them with their academic problems and helps them in finding a suitable major. During the one or two years they are in the division, students pursue the general programs outlined on the following pages. At the end of this time they should select a major, transfer to the appropriate college, and continue their studies toward a baccalaureate degree. Following are the suggested programs:

Biological Science, Premedical, Predental, and Preforestry

A student interested in botany, bacteriology, and zoology or planning to apply to schools of medicine, dentistry, or forestry should register for the following courses. This will enable him to transfer from General College to a major department at any time during his freshman or sophomore year and continue work toward a baccalaureate or other professional degree.

To ensure completion of all requirements for the school of his choice the preprofessional student should contact the chairman of the premedical-dental committee by the end of the freshman year. A student desiring to major in botany, bacteriology, and zoology should likewise contact the chairman of the department of his choice.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Math. 101, 105-106 or 111	3	5
Bot. 101 or Zool. 105	3	
Bot. 110 or Zool. 212		3-4
Health 130	2	
Soc. sci. or hum.	3	
Hist. 170		3
Total Hours	16½	16½-17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Chem. 105, 106	4	4
Physics 201, 202	4	4
Bot. 225	3	
Bot. 376 (and 378) or Zool. 363	4	
Bact. 321 and 322		4
Electives		3
Total Hours	17½	17½

Business

The following is a suggested two-year program for students having a general interest in business but undecided about the particular area in which to major. With the exception of English composition and courses with indicated prerequisites, the freshman and sophomore courses may be taken interchangeably. Students may transfer into the College of Business at any time.

Freshman Year

	F	S
Engl. 111, 112	3	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Health 130	2	
Econ. 111, 112	3	3
Phys. sci.*	3	
Hist. 170		3
Math. 108		3
Electives	3	2
Total Hours	16½	16½

Sophomore Year

	F	S
Undergrad. relig.	2	2
Engl. (lit.)	3	
P.E.	½	½
Biol. sci.*		3
Stat. 221	3	
Bus. Mgt. 347		3
Acctg. 201, 202	3	3
Econ. 274 (hum.)		3
Bus. Mgt. 205		2
Phys. sci.	3	
Electives	2	
Total Hours	16½	16½

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*Any of the courses listed under the proper headings for general education requirements will be appropriate.

Education

A student having an interest in elementary education should register for the following courses. At the end of his freshman or sophomore year he may transfer to the College of Education without loss of credit and continue his studies toward a Bachelor of Science or Arts degree.

Students having an interest in secondary education should register for the appropriate courses in other areas of provisional registration. For example, a person wishing to teach biological science in the secondary schools should register in courses under biological science, premedicine, predentistry, and preforestry. Or, if a person wishes to teach industrial arts, he should register in the Department of Industrial Education. At the end of his sophomore years he may transfer to the appropriate college or to the College of Education without loss of credit and continue his studies toward a Bachelor of Science or Arts degree.

Freshman Year	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.*	½	½
Geol. 101	2	
Biol. sci. elective		3
Chem. 100		3
Hist. 120, 121	3	3
Health 130	2	
Dram. Arts 121		3
Pol. Sci. 110	3	
Total Hours	15½	17½

Sophomore Year	F	S
Undergrad. relig.	2	2
Music 102	2	
Bact. 121		3
Math. 305		3
Tchr. Ed. 301		2
P.E.*	½	½
Bot. 101 or Zool. 105	3	
Geog. 101	3	
Engl. or Amer. lit.	3	
Hist. 360 or 365 or 366		2
Minor	3	4
Total Hours	16½	16½

*During their freshman and sophomore years students must choose physical education classes from each of the below-listed areas.

Folk and square dance	½ unit	Group games	½ unit
Individual game	½ unit	Physical fitness	½ unit

See the Teacher Education Section of this catalog for additional information.

Family Living

The two-year program in family living is designed for students who are undecided about a major and who wish to explore possibilities in the College of Family Living. Courses listed below in clothing and textiles, food and nutrition, housing and home management, and child development will provide a foundation in any one of these fields for the bachelor's degree. Other courses listed below will contribute substantially toward filling general education requirements.

Freshman Year	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
Hous. & Home Mgt. 170	2	
Psych. 111	3	
Clo. & Text. 110		2
Art 101 or 110	2	
Physics 100	3	
P.E.	½	½
Health 130		2
Food and Nutr. 110		2
CDFR 210		3
Elective		2
Total Hours	15½	16½

Sophomore Year	F	S
Undergrad. relig.	2	2
Chem. 101, 151	4	5
Zool. 105		3
Food & Nutr. 115	2	
Econ. 101		2
Hous. & Home Mgt. 201	3	
Clo. & Text. 165, 260	4	3
Art 101		2
Engl. lit.	2	
P.E.	½	½
Total Hours	17½	17½

Fine Arts and Communications

Following is a suggested sequence of courses for students interested in art, music, dramatic arts, speech, journalism, television, radio, advertising, and public relations. At the conclusion of the freshman year the student should transfer to the College of Fine Arts and Communications and continue his work toward a baccalaureate degree.

Freshman Year

	F	S		F	S
Undergrad. Relig. 121, 122	2	2	Health 130	2	
Engl. 111, 112	3	3	Phys. or biol. sci.*	3	3
P.E.	½	½	Fine arts electives**	7	8
			Total Hours	17½	16½

*Any of the courses listed under physical science in the general education requirements will be accepted. Majors in communications should take Physics 177.

**Art 121, 122, and electives from 227, 233, 239, 250, 256, 263; Commun. 101, 211, 255; Speech 101; Dram. Arts 121; Music 101, 102, 105 (or private lessons); 170 (or private lessons or other choral group).

Humanities

It is anticipated that the student who selects the program suggested below will have a general interest in the field of humanities, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the general education group requirements, will provide training in a foreign language in anticipation of the B.A. degree, and will offer a generous sampling of humanities courses to assist the student in selecting a major. See the College of Humanities Section of this catalog for the new humanities major program.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Hum. 101	3	
Foreign lang.	4	4
Hist. 170*		3
Health 130		2
Phys. sci. electives**	3	3
Total Hours	15½	17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Foreign lang.	4	4
Biol. sci. electives**	3	3
Engl. 250	3	
Soc. sci. electives**	2-3	3
Hum. electives**	2-3	5
Total Hours	16½-18½	17½

*Students who anticipate majoring in history, journalism, or political science should take Hist. 120 or Pol. Sci. 110 and Hist. 121 instead of Hist. 170.

**Students should be sure that the courses selected in physical science, biological science, social science, and humanities fill general education credit in these areas.

INDUSTRIAL EDUCATION AND INDUSTRIAL TECHNOLOGY

A student interested in industrial education or industrial technology should contact one of these departments for assistance with his proposed program of studies. Failure to work with the department may result in delayed graduation due to the sequence of courses that must be maintained.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engr. Tech. 100	1	
Health 130, Hist. 170	2	3
Engl. 111, 112	3	3
For. & dev. assy.	1	1
P.E.	½	½
Math. 121, Physics 105	3	3
Drawing 111, 211	3	2
Indus. or tech ed.*	2	2
Total Hours	17½	16½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
For. & dev. assy.	1	1
Biol. sci.**, hum.**	3	3
Soc. sci.**	3	
Engr. Tech. 101, 102	3	3
Indus. & tech. ed.	4	7
Total Hours	16½	16½

*Any course in the major area of interest.

**Any general education class to fill groups.

NURSING

Prospective students who plan to enter the College of Nursing should direct all their communications to the dean of the College of Nursing.

Following is a sequence of courses for the first semester for students interested in the baccalaureate program in nursing:

Freshman Year

	F		
Undergrad. Relig. 121	2	Chem. 101	4
P.E.	½	Sociol. 111	3
Engl. 111	3	Bact. 121	3
		Total Hours	15½

Students interested in the associate degree program in nursing contact the dean of the College of Nursing on the Provo campus or the director of the associate degree program in nursing at the Salt Lake City campus.

Physical Education

Following is a suggested sequence of courses for students interested in recreation, physical and health education, athletics, and youth leadership. When a decision is reached to major in one of these areas the student should transfer immediately to the College of Physical Education and continue his own work toward a baccalaureate degree. For detailed information about majoring in health, physical education, recreation, and youth leadership, the student should consult the sections of the catalog dealing with those departments.

Men

Freshman Year

	F	S
P.E. 180, 181	½	½
P.E. 201, 232	2	1
P.E. 231, 233	1	1
Health 130, Math. 105	2	3
Engl. 111, 112	3	3
Hist. 170, Zool. 105	3	3
Undergrad. Relig. 121, 122	2	2
Psych. 111, Sociol. 111 or 112	3	3
Total Hours	16½	16½

Sophomore Year

	F	S
P.E. 286, 235	1	1
P.E. 234, 237	1	1
P.E. 236, Physics 100	1	3
Zool. 261 & 262, Speech 102	5	2
Undergrad. relig.	2	2
Chem. 100 & 104, P.E. 370, 371, 373 or 374 (Select 2)	3	4
Hum. minor subject area	4	4
Total Hours	17	17

Women

Freshman Year	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E. 187, 188, 189	1	½
P.E. 241, 242	2	2
Phys. sci.*	3	3
Hist. 170	3	
Health 130		2
Hum.	2	3
Elective		2
Total Hours	16	17½

Sophomore Year	F	S
Undergrad. relig.	2	2
P.E. 244, 245	2	2
P.E. 181, 182	½	½
P.E. 180, 160	½	½
Zool. 105, 261; Bact. 121 or Bot. 101	3	5
Psych. 111	3	
Hum.		3
Minor subject area	2	
Health 362		2
Engl. lit.	3	
P.E. electives	1	2
Total Hours	17	17

*Any of the courses listed under physical science in the general education requirements will be approved.

Physical Science

The following course of study is recommended for one or two years. At the end of either, the student may choose a major, transfer into the College of Physical and Engineering Sciences, and pursue his education to the completion of a Bachelor of Science degree in chemistry, geology, mathematics, or physics. To avoid loss of time, this transfer should be made as early as possible. Students who are interested in engineering but who have not chosen a specific field should enroll directly in the preengineering curriculum outlined under the College of Physical and Engineering Sciences. These students should refer to the program of studies of the department in which they have a particular interest.

Freshman Year	F	S
Math. 111, 112*	5	5
Chem. 105, 106**	4	4
Engl. 111, 112	3	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Health 130		2
Electives	3	2
Total Hours	17½	18½

Sophomore Year	F	S
Math. 213, 334	5	3
Physics 211, 213	4	4
Physics Lab. 212, 214	1	1
Undergrad. relig.	2	2
P.E.	½	½
Hist. 170	3	
Electives (biol. and/or hum.)	2	7
Total Hours	17½	17½

*Math. 111 requires a mastery of second-year high school algebra or Math. 101. Students who do not have an adequate background in high school algebra must take Math. 101 before enrolling in either Math. 111 or Math. 105. High school plane geometry is a prerequisite for Math. 111 or Math. 106.
**Chemistry majors should take Chem. 111 or 112.

Social Science

It is anticipated that the student selecting the program suggested below will have a general interest in the social sciences, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the general education group requirements and should permit a generous enough sampling of social science courses to assist in selecting a major.

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Health 130	2	
Sociol. 111 or 112	3	
Hist. 170*	3	
Psych. 111		3
Electives in phys. sci.**	3	3
Elective in biol. sci.**		2-3
Elective in hum.**		2-3
Total Hours	16½	15½-17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Econ. 101 or 111	3	
Pol. sci.	3	
Geog. 101 or 120		3
Anthrop. 101		3
Engl. lit.	2	2
Electives in foreign lang. or hum.**	4	4
Electives in biol. sci.**	3	
Electives in soc. sci.		3
Total Hours	17½	17½

*Students who anticipate majoring in economics, history, journalism, or political science should take Hist. 120 or Pol. Sci. 110 and Hist. 121, instead of Hist. 170.

**Students should be sure that the courses selected in physical science, biological science, social science, and humanities fill general education credit in these areas.

If a student completes one of these curricula, he may transfer into one of the other colleges of the University with a minimum of lost time, credit, or standing, and will advance as a junior in the college of his choice without professional handicap. The same entrance requirements as have been set up for the rest of the University are required for provisional registration.

College of Humanities

Bruce B. Clark, Dean (303 McKay)

The following departments and special programs are available in the College of Humanities:

- English
- Humanities
- Languages
- Latin-American Studies
- Linguistics

The College of Humanities was created June 1, 1965, through a division of the College of Humanities and Social Sciences. However, the basic subject areas of literature and language taught in the college have been emphasized in the University since its beginning.

Emphasis in the college is on the study of languages, both English and foreign, and on the cultures and achievements in art and thought of the people who use these languages. In other words, the college is heavily involved in what is traditionally called **liberal** education, both for those students who major or minor in the college and for those who are served by it in the general-education program. In their ultimate goals the humanities seek to discover, preserve, and disseminate the best of man's thoughts and creations.

There are two large purposes for which the instructional program of the College of Humanities is designed. One is the provision of a broad, liberal education to assist students to receive in the fullest measure the values to be found in today's complex civilization and to contribute to the enlargement of those values. The other is the preparation of professional men and women, highly skilled, to fill positions of responsibility and leadership in the productive affairs of our twentieth-century world, especially as teachers, but also as educated leaders in other areas.

Courses intended to contribute to the first purpose are offered as a service to all students in the University. Career programs for those who choose to do their major work in this college are offered in each department and program. Advisers stand ready to consult with students in the selection of programs that will contribute most effectively to a broad education and to professional training.

The college consists of two major departments—the English Department, with Dale H. West as chairman, and the Department of Languages, with R. Max Rogers as chairman. In addition, there are three interdisciplinary areas based in the college—the Humanities Program, with Ralph A. Britsch as coordinator; the Latin-American Studies Program, with C. Dixon Anderson as coordinator; and the Linguistics Program, with Robert W. Blair as coordinator. The McKay Building serves as headquarters for all of these areas, and for the college as a whole.

College of Industrial and Technical Education

Ernest C. Jeppsen, Dean (120 Social Hall)

The College of Industrial and Technical Education, the most recently organized college on the Brigham Young University campus, provides a rich offering of two-year associate degree, four-year baccalaureate degree, and five-year master's degree programs in industrial and technical fields. This college is designed to help students become responsible citizens in the country and leaders in the Church, to acquaint them with their cultural heritage, and to lay the foundations for useful and productive lives in a democratic society.

While this college as such is the newest one on the campus, its beginning dates back to 1875 when a deed of trust executed by President Brigham Young expressly set forth that ". . . each of the boys who shall take a full course, if his physical ability will permit, shall be taught some branch of mechanism that shall be suitable to his task and capacity . . ." and ". . . work for young women —instruction in needlework, embroidery, knitting, sewing, etc., and in domestic duties. . . ."

At present, the College of Industrial and Technical Education includes three departments.

DEPARTMENT OF INDUSTRIAL EDUCATION

The Department of Industrial Education provides baccalaureate programs for the training of Industrial Arts teachers for junior and senior high schools, and Technical Education teachers for vocational and technical schools. This department also offers master's degree graduate programs for advanced preparation toward master teacher certification and for preparation of supervisors, coordinators, and administrators in industrial and technical education.

DEPARTMENT OF INDUSTRIAL TECHNOLOGY

The Department of Industrial Technology offers four-year baccalaureate degree programs in Building Construction Technology, Design and Drafting Technology, and Tool and Manufacturing Technology. This department also offers two-year associate degree industrial technician programs.

TECHNICAL INSTITUTE

The Technical Institute operates throughout the Brigham Young University campus and offers two-year technical and preprofessional associate degree programs for the training of business technicians in accounting, secretarial service, commercial art, and computer programming; engineering programs for the training of chemical, civil, electrical, electronics, and mechanical engineering technicians; industrial programs for the training of drafting, light building construction, tool design, and welding technicians; and miscellaneous technician programs for training in general agriculture, genealogical research, home service, library, photography, registered (R.N.) nurses, and radio and television.

In addition, this college offers many service courses open to all students on the campus including courses in the Evening Classes, Summer School, Home Study, and in B.Y.U. Centers for Continuing Education.

Programs in this College provide the specialized training necessary to prepare not only potential teaching and administrative personnel in Industrial Education, but also employees for business, industry, and government. Instructors are experienced teachers with advanced technical training and years of successful experience in their occupations. Classes are held in modern classrooms and well-equipped laboratories.

For further information, please refer to the departmental descriptions in this catalog of courses.

College of Nursing

BACCALAUREATE DEGREE

Linnea Morrison, Acting Dean (2240 SFLC)

The basic baccalaureate program in nursing is organized to provide a balance of general and professional education. General education courses are given in the first semester. Beginning in the second semester, courses in professional nursing are correlated with general education. Concepts of communications, mental health, pharmacology, nutrition, professional ethics, health teaching, interpersonal relationships, and spiritual values are integrated throughout the program. The course of instruction covers laboratory experience with theory courses given concurrently.

The purposes of the baccalaureate program are

1. To prepare professional nurses for potential leadership positions in the clinical areas of nursing and to function effectively in giving skillful, comprehensive patient care and contributing to the prevention of illness, rehabilitation, and promotion of health.
2. To develop a strong sense of professional responsibility in the student for maintaining and furthering the quality of nursing as it relates to the individual and community.
3. To develop social sensitivity and broad cultural interests which will enable the student to enjoy a more satisfying and useful personal, family, and community life.

The College of Nursing baccalaureate program is accredited by the National League of Nursing and by the Utah State Board of Nursing. At the completion of the program the student receives a Bachelor of Science degree and is eligible to take the state examination for licensure to practice nursing as a registered nurse and to use the title R.N. The registered nurse is eligible for a position in public health nursing.

Requirements

Admission. All applicants must meet University admission requirements. High school students are advised to take a science-oriented course including at least one unit of algebra (a unit of geomentry is desirable), chemistry, biology, and physics.

The student will be assigned to a College of Nursing faculty member who will act as her adviser. An interview with an adviser is required during the first semester.

For admission to the College of Nursing from another institution, or transfers from another college within the University, the student should contact the dean of the College of Nursing, who will present the case to the Admissions and Standings Committee for recommendations.

Progression. Continuance in the College of Nursing is determined by health, adaptability and attitudes, skills and University grade average.

An average grade of "C" (2.0) must be maintained each semester to remain in the College of Nursing.

Honors Program. A College of Nursing faculty member serves on the University Honors Program Committee. Opportunity and direction are given for exceptional students in the beginning level nursing courses. Honor students elect a minor in allied fields.

Graduation. Candidates for the baccalaureate degree must fulfill the University requirements. It is the student's responsibility to meet these requirements. The program provides for a composite major and minor in nursing.

Fees and Scholarships

Total educational costs are the responsibility of the student. These are found in the catalog section titled "University Fees" listing general University expenses. To these the student should add the cost of uniforms. Laboratory fees in the nursing courses average approximately $20 for the four years. An itemized estimate of the costs to a student in the College of Nursing is available upon request.

The University policy concerning scholarships for leadership and academic standing is applicable to all students in the College of Nursing. After the freshman year some special scholarships and educational assistance are available for nursing students with demonstrated ability and financial need.

College Organizations

Student nurses have the opportunity of being members of the regular college organizations and the Brigham Young University Student Nurses' Association which is affiliated with the Utah and American Student Nurses' Association, a professional organization for students in the College of Nursing. Membership is extended to all students enrolled in nursing. The goals of the organization are to promote professional, social, cultural, and educational activities; to foster cooperation and good fellowship; and to maintain the scholastic and moral standards of the University. Regular meetings are held each month. Representatives of the local association attend the state association meetings and the national meetings. Association members have opportunities to develop leadership abilities, acquire professional attitudes and knowledge, and gain friends through working together.

Educational Facilities

Students share the same facilities and have the same cultural opportunities as all other students on the campus. The newest, most effective teaching aids and equipment are provided in the College of Nursing laboratories and classrooms. The facilities utilized for nursing experience change from year to year depending upon the needs of the students and the learning experiences selected by the faculty. At present, clinical experience is provided in the Latter-day Saints' Hospital in Salt Lake City, the Primary Children's Hospital in Salt Lake City, Utah Valley Hospital of The Church of Jesus Christ of Latter-day Saints in Provo, Salt Lake City and County Health Departments, and other facilities available through the State Health Department. The Church-operated hospitals are approved by the Joint Commission for the Accreditation of Hospitals, an organization sponsored by the American Hospital Association, American College of Surgeons, American Medical Association, and American College of Physicians.

The Latter-day Saints' Hospital in Salt Lake City, with a capacity of 441 adult beds and 105 bassinets, provides clinical fields for the practice of medical, surgical, operating room, and pediatric nursing. The Primary Children's Hospital in Salt Lake City, with a bed capacity of 96, including an isolation unit, provides experience in the care of the child.

The Utah Valley Hospital of The Church of Jesus Christ of Latter-day Saints has a current capacity of 237 beds and 36 bassinets. It provides clinical fields for the practice of medical, surgical, operating room, obstetrics, and pediatric nursing. The Utah State Hospital in Provo, with a bed capacity of 701 and an average daily census of 570, provides experience in psychiatric nursing. The Health Department of Utah provides a generalized public health nursing program and offers field experience in nursing.

ASSOCIATE DEGREE

Lottie Felkner, Director (L.D.S. Health Service Center, Twelfth Avenue and "E" Street, Salt Lake City, Utah).

The Associate Degree Program in nursing is designed to prepare competent bedside nurses who are qualified to take the State Board Examination and become registered nurses.

Nursing encompasses a complex of functions which requires the services of competent practitioners with varying levels of preparation. Each of these levels represents a career in nursing and the opportunity for nurses to achieve excellence within the framework of their preparation.

The Associate Degree Program will assist its graduates to

1. Grow in self-understanding and strive for perfection in their personal lives, as citizens in the community, and in their nursing careers.
2. Return to their communities and find satisfaction in achieving excellence as members of the nursing team.
3. Know the basic principles of nursing and utilize them effectively in giving direct nursing care, in staff nursing positions and in hospitals and similar institutions.
4. Communicate and relate effectively with others.
5. Think and reason more critically, and achieve basic skills in problem solving.
6. Welcome supervision and seek guidance appropriate with their level of preparation.
7. Recognize that the Associate Degree Program does not provide preparation and experiences essential for leadership positions in nursing such as head nurse or supervisor.
8. Become eligible to take the State Board Test Pool Examination for licensure as a registered nurse.

Program Description

Five semesters are required to complete the associate degree program. The first semester (fall or summer) is spent at Brigham Young University filling general education requirements to provide the foundation essential to nursing. As members of the University student body, students in nursing enjoy the same privileges and opportunities as do other students; they share in the rich social, cultural, recreational, and spiritual activities that are an important part of University life.

The second semester, students go to the Salt Lake campus where they remain until the completion of the program. Here, they participate in the nursing science courses and in clinical practice, and continue general education courses.

The Latter-day Saints' Hospital, Primary Children's Hospital, Cottonwood Hospital and Bonneville Convalescent and Nursing Center provide excellent experiences in medical-surgical, pediatric, psychiatric, and maternity nursing. Selected community agencies are employed to supplement hospital clinical experience.

Requirements

Admission. All applicants must meet University admission requirements. The student registers in the College of Industrial and Technical Education from which College the Associate Degree in Nursing is granted.

Transfers, etc. Transfers from another College within the University, or from another institution, should contact the dean of the College of Nursing or the director of the program who in turn will present the case to the Admissions and Standings Committee for recommendations.

Progression. Continuance in the Associate Degree Program is determined by health records and adaptability to nursing as evidenced by attitudes and skills, and grades.

An average grade of "C" (2.00) should be maintained in each clinical area to remain in the program.

Graduation. The Associate Degree in Nursing is conferred on candidates who fulfill University requirements for graduation. Graduates are eligible to take the State Board Test Pool Examination for licensure as registered nurses (R.N.).

Fees and Scholarships

See "University Fees," and "Scholarships," sections of this catalog. The cost of uniforms and caps should be added to University fees. Nursing scholarships may be available after the first semester for deserving students who have demonstrated ability and who have a grade-point average of 2.0 or above.

Counseling

Students are assigned to nursing counselors either on the Provo campus or the Salt Lake campus who assist in the selection of courses and the planning of a schedule.

Through planned conferences, during the school year, the adviser carefully checks and keeps a written record of the academic progress, attitudes, skills, and health of each advisee.

College of Physical and Engineering Sciences

Armin J. Hill, Dean (271 ESC)

The College is divided into ten departments:

Aerospace Studies
Chemical Engineering Science
Chemistry
Civil Engineering Science
Electrical Engineering Science
Geology and Geological Engineering Science
Mathematics
Mechanical Engineering Science
Physics
Statistics

The Department of Aerospace (AFROTC) is under the direct supervision of regular officers of the United States Air Force. A description of the requirements and activities of this department is given in the section on Aerospace Studies under List of Courses.

Required High School Preparation

A student enrolling in the College of Physical and Engineering Sciences will find it necessary, in order to complete the prescribed curricula without loss of time, to have successfully completed the following high school courses or their equivalents:

3 units of English.

4 units of mathematics, consisting of two and one-half units of algebra, one unit of geometry, and one-half unit of trigonometry. This should be sufficient to qualify a student to commence college mathematics with analytic geometry and calculus.

1 unit of physical science which should be either chemistry or physics.

Because mathematics provides the foundation for all work in the physical and engineering sciences, particular attention is paid to the high school preparation in this subject. If his high school training is found to be deficient, an entering student will be required to take remedial work. He should recognize that the time required to complete his college program will probably be extended by the length of time necessary to make up these deficiencies.

A student who will not have completed all recommended courses by the time he graduates from high school, may complete them through Home Study or other courses offered by Brigham Young University. High school seniors who have the time and ability, may carry special extension courses which will be given college credit and which may be counted toward a baccalaureate degree. Information on any of these courses will be sent upon request.

Physical and Mathematical Science

The Departments of Chemistry, Geology, Physics, Mathematics, and Statistics each offer four-year courses leading to the degree of Bachelor of Arts or Bachelor of Science. Majors are offered in chemistry, chemistry teaching, predental chemistry, premedical chemistry, earth sciences, geology, mathematics, physics, and statistics.

Completion of 14 or more credit hours in the Aerospace Studies program qualifies a student for a minor. No major is offered in this area but a student may obtain a commission in the United States Air Force by following either of the programs outlined in the section on Aerospace Studies.

Engineering Sciences

The engineering curricula at Brigham Young University have been established on a strong base of mathematics and science. Predictions made by the American Society for Engineering Education show that by 1975 there will probably be at least half as many master's degrees granted annually in engineering as there will be bachelor's degrees. Recommendations are also made that in the future the master's degree be considered the first professional degree in engineering, with the bachelor's degree being retained for those who for one reason or another may not wish to continue their training to the master's level.

Brigham Young University has therefore developed curricula leading to the Master of Science degree in each of the four departments in the school of engineering (Chemical, Civil, Electrical, and Mechanical). Particularly well prepared and capable students will be able to obtain this degree in as short a time as five years after entering the prescribed program.

The Bachelor of Engineering Science degree is offered in each of these four departments. It is also offered in geological engineering in the Department of Geology. This program requires approximately one year less than the Master of Science program. In other words, it can be completed by a particularly well qualified and capable student in as short a time as four years and perhaps a summer session after the entrance requirements are fully met. The Bachelor of Engineering Science programs in chemical engineering, civil engineering, electrical engineering, and mechanical engineering are accredited by the Engineering Council for Professional Development (ECPD).

To enter any of these programs, a student must be able to commence his mathematics at the level of analytic geometry and calculus (Math. 112), and must have either passed the courses or had sufficient previous preparation to satisfactorily pass examinations excusing him from taking the first course in graphics (C.E. 101), and the courses in Health 130 and History 170. He should also have had good high school courses in chemistry and physics. Students who cannot meet these requirements will nevertheless be admitted to study in the engineering school but will find it necessary to take another regular semester or perhaps a summer term to make up these requirements.

Transfer students may enter either the professional programs leading to the Master of Science degree or those leading to the Bachelor of Engineering Science degree upon showing, to the satisfaction of their major department, that they can meet at least the minimum requirements set forth above. Entrance can, of course, be at any level, and students who have already obtained either a Bachelor of Science degree in engineering or the Bachelor of Engineering Science degree or its equivalent, can be accepted as candidates for the Master of Science degree in engineering provided that they can meet all of the other requirements for such acceptance as set forth by the respective departments and the Graduate School.

Graduate Courses

Instruction leading to the degree of Doctor of Philosophy is currently offered in chemistry, geology, and physics.

Instruction leading to a Master of Science degree is offered in chemical, civil, electrical, and mechanical engineering, and in chemistry, geology, mathematics, physics, and statistics.

Each graduate student must meet all the requirements for advanced degrees as outlined by the Graduate School and as set forth in the Graduate School catalog. **The responsibility for knowing and fulfilling these requirements rests with the student.**

College of Physical Education

Milton F. Hartvigsen, Dean (212 RB)

The following departments are in the College of Physical Education:

Health and Safety Education
Intercollegiate Athletics
Physical Education—Men
Physical Education—Women
Recreation Education
Youth Leadership

The following additional areas are given special attention:

Dance
Intramural sports
Prephysical therapy

This college, unique in American universities, has two significant contributions to make: service and development of leadership.

Outstanding in its services are those functions which contribute to student life. The physical education program provides vigorous participation in specific physical activities which are part of the cultural heritage of American youth. It is intended that individual, team, and winter sports, various types of rhythms and dancing, gymnastics and tumbling, aquatics, special body-building activities, and other activities provide opportunity for development, expression, and wholesome participation.

Those students with specialized skills in athletics are encouraged by well-coordinated programs in intramural and intercollegiate athletics. Through affiliation with the Western Athletic Conference and the National Collegiate Athletic Association there are opportunities in intercollegiate athletics for competition in swimming, baseball, basketball, football, golf, gymnastics, tennis, track, and wrestling. Varsity squads make scheduled trips to selected areas to meet teams of other universities.

While opportunities for leadership by educated men and women are always unlimited, the demand is particularly high for those whose professional areas lie within this college. Professional training is emphasized in these major fields: recreation, youth leadership, physical education, and health and safety education. Certification for teaching in Utah may be completed, and certification for teaching in other states may be arranged readily. Dance and prephysical therapy are given attention as areas in which students may specialize.

Brigham Young University is the first university to offer a major in youth leadership. The program is two-fold: the training of men for professional scouting and the preparation of men and women to serve the Church and community in youth leadership capacities.

Brigham Young University alumni have gone to all points of the globe and have actively guided communities and Church members to the ends of abundant and wholesome living. The Church of Jesus Christ of Latter-day Saints, through its beliefs and teachings, has developed a unique reputation in health practices and in family, Church, and community recreation. Brigham Young University, in harmony with the objectives of the Church, plans not only for participation by its members, but for active and exemplary leadership by them. It is a goal of this college to help achieve this.

Department of Health and Safety Education. In the Department of Health and Safety Education emphasis is placed on the educational aspects of health, including safety and driver education, as well as the health sciences. This department functions in the promotion of proper health knowledge, attitudes, and practices. It also cooperates with the home, the University and the health center; with physicians and dentists; and with public health departments and other groups which have responsibilities in the promotion of health. The health curriculum deals primarily with health instruction. Stress is placed on personal health, sanitation, nutrition, and personal safety practices. Courses are offered for all students and for teachers working toward certification in public schools.

Department of Intercollegiate Athletics. Brigham Young University is a member of the Western Athletic Conference and the National Collegiate Athletic Association. The school competes in all sports sponsored by the conference.

The athletic program at Brigham Young University serves as a vital educational training ground and laboratory dedicated to teaching young men important individual traits which will better enable them to perpetuate the American tradition. The program is designed to develop such characteristics as capacity to lead and direct, respect for discipline and authority, social and moral understanding, ability to act effectively under stress, capacity for self-discipline in the interest of accomplishment, and determination to overcome obstacles. Individual and team play promotes cooperation, sportsmanship, health, strength, and bodily vigor in the participants.

Departments of Physical Education. These departments, one for men and one for women, work together in providing (1) service courses, (2) professional education for prospective teachers of physical education and athletic coaching on the undergraduate and graduate levels, and (3) special curricula in dance and prephysical therapy.

Physical education is planned to develop organic power, physical fitness, skill in activities, and enthusiasm for useful and desirable pursuits during leisure time throughout life. Its program is also planned to develop social traits and attitudes which will prepare students for leadership roles in college, Church, family, and community life. Many courses are offered on a coeducational basis.

Department of Recreation Education. This department has a number of basic functions in fulfilling its responsibility to the students, the University, the Church, and the profession. Among the responsibilities specifically recognized are to (1) prepare professional leaders in recreation education, (2) qualify voluntary leaders for Church and community service, (3) provide and supervise recreational activities for students and faculty, and (4) provide consultation service for campus, community, and state groups. To meet these responsibilities this department has developed an expanded curriculum and secured many new facilities; others are being planned for the immediate future; and a highly trained staff has been assembled to conduct the program.

The general purpose of the expanding intramural program is to afford all students the opportunity to take part in a well-organized program which includes a wide range of activities. An extensive program for both men and women is provided.

Department of Youth Leadership. The Department of Youth Leadership offers a relatively new field of career preparation for the college student. Extensive professional opportunities are now available to the graduate who has been trained to administer the many national and local youth organizations that require professional leadership.

The student may select a curriculum particularly suited to prepare him for executive leadership within the Boy Scouts of America, or he may choose a broader field of preparation that will qualify him for employment by boys'-club organizations, youth associations, achievement programs, and other such groups. Youth associations for girls, Girl Scouts, and Campfire Girls, demand professionally-trained women to administer their programs. A major or minor in youth leadership provides a graduate with excellent employment opportunities.

A second objective of the department and one of far-reaching purpose is to provide graduates, regardless of their professional interest, with abilities for skilled volunteer leadership of youth so desperately needed by church and community organizations.

College of Religious Instruction

B. West Belnap, Dean (144 S)

The following departments are in the College of Religious Instruction:

Undergraduate Studies in Religious Instruction
Graduate Studies in Religious Instruction

This college administers all religious instruction sponsored by the University.

It always has been the view of The Church of Jesus Christ of Latter-day Saints that in the training of its youth there should be a proper integration of moral and religious knowledge and values with secular knowledge. From its inception, Brigham Young University, firm in the belief that no life is full and complete unless established upon a sound ethical and religious basis, has offered courses in religion.

Many courses in the College of Religious Instruction are available to the undergraduate student, although no bachelor's degree is offered by this college. The basic philosophy underlying the educational process at Brigham Young University is that an undergraduate student study religion simultaneously with his study of the other academic disciplines. Therefore, a student will take a course in religion each semester he is in residence rather than accumulating excessive religion credit in one semester in order to be excused from religion in another semester.

For general education requirements in religion, see the Student Academic Services section of this catalog.

Graduate Studies in Religion

The Graduate Department of Religious Instruction offers six graduate degrees: Master of Religious Education (M.R.E.), Doctor of Religious Education (D.R.E.), Master of Arts in History of Religion (M.A.), Doctor of Philosophy in History of Religion (Ph.D.), Master of Arts in Scripture (M.A.), and Doctor of Philosophy in Scripture (Ph.D.). For a statement of the detailed requirements for each of these degrees, consult the Graduate School Catalog.

INSTITUTE OF MORMON STUDIES

Truman G. Madsen, Director (156 S)

The Institute of Mormon Studies is an interuniversity institute established to sponsor and correlate, and eventually to select and publish, research efforts in all fields that relate to Mormon culture, its history, thought, and institutions. The institute serves as a cross-disciplinary organization projecting long-range research goals and encouraging the work of established specialists.

At present the institute is functioning to develop authentic bibliographies and indexes of various Mormon-related source materials and collections; to honor distinguished scholarship by research grants and publication aids of high-quality research; and to establish a close-working relationship, not only with recognized scholars, but with associations of similar interest, and with individuals or institutions disposed to contribute to or draw upon the developing resources of the institute.

INSTITUTE OF BOOK OF MORMON PROJECTS

Daniel H. Ludlow, Director (220 S)

The Institute of Book of Mormon Projects has been organized under the College of Religious Instruction for the purpose of correlating and promoting research and other studies related to the Book of Mormon. The institute will help to plan, develop, produce and distribute materials related to this sacred Nephite scripture.

College of Social Sciences

John T. Bernhard, Dean (390 Maeser)

The following departments and special programs are available in the College of Social Sciences:

- Anthropology and Archaeology
- Asian Studies
- Economics
- Geography
- History
- International Relations
- Political Science
- Psychology
- Russian Studies
- Sociology

Man, himself, has always been a most fascinating study—what he has done, what he has thought, what he has said and how he has reacted to problems confronting him.

The social sciences study activities and relationships of man: his nature, his power to communicate, his environment, what motivates him, how his activities progress, the institutions he has created, and the important social and governmental problems with which he must deal. The social sciences are therefore related disciplines whose purpose is to help man live in the most intelligent and satisfying manner, and they utilize the modern methods of science: controlled observation, laboratory experimentation whenever possible, statistics, and analytical reasoning. Their potential significance for a troubled world is tremendous.

There are two large purposes for which the instructional program of the College of Social Sciences is designed. One is the provision of a broad education to assist those who obtain it to receive in the fullest measure the values to be found in today's complex civilization and to contribute to the enlargement of those values in an effective, acceptable manner. The other is the preparation of a more limited group as qualified contributors to the discovery of additional truth to add to our present heritage and as capable professional participants in the productive affairs of daily living.

Courses intended to contribute to the first purpose are offered as a service to all students in the University. Career programs for those who choose to do their major work in this college are offered in each department. Advisers stand ready to consult with students in the selection of studies that will contribute most effectively to a broad education and to specialized training in each department.

List of Courses

Semester System. Courses of study at Brigham Young University are offered and credit for satisfactory completion is granted on a semester basis.

Course Numbering System. Level of instruction of courses is shown by the numbers assigned:

Course Number	Type of Course
1 to 99	Preparatory and remedial (noncredit)
100 to 299	Lower division
300 to 499	Upper division
500 to 599	Advanced undergraduate or graduate
600 to 799	Graduate

Credit-Hour Designation. The three-number code which appears in parentheses immediately after each course title has the following significance:

First number:	Semester hours of credit
Second number:	Class hours of lecture, recitation, or seminar meeting per week or Minimum hours of individual study required per week
Third number:	Laboratory hours required per week or Hours of field study or individual research per week

Abbreviations and Symbols. The following abbreviations and symbols are used in the List of Courses Section:

Arr.	Class or laboratory hours arranged
ea.	Credit-hour designation applies to each course number listed
F., S., Su.	Fall or Spring Semesters or Summer Session
G-BS	Fulfills general education requirements in biological science
G-HA	Fulfills general education requirements in humanities and aesthetics
G-PS	Fulfills general education requirements in physical science
G-R	Fulfills general education requirements in religion
G-SS	Fulfills general education requirements in social science
m	Designates course which may be used to fulfill requirements for a minor
*	In Administration and Faculty Section and in departmental faculty listings, faculty member on leave In Student Academic Services Section general education courses which have prerequisites.
☐	Course originating in one department which may count for credit in another department

Cross Referencing of Courses. Each course is listed completely only once in the catalog. If the course may count in another department, it is listed in abbreviated form in that department and is preceded by a special symbol, ☐.

Interdisciplinary Courses. Interdisciplinary courses are taught in several areas. In the course listing which follows, these courses, such as agricultural education, devotional and forum assemblies, humanities, and physical science, appear.

Graduate Courses. For regulations governing study beyond the bachelor's degree, see the Graduate School Section of this catalog and the Graduate School Catalog. Advanced undergraduate or graduate courses (500 series) may be used for graduate credit with certain limitations.

Reservation of Right to Change Courses. At the time of printing of this catalog, the University intends to give the courses listed herein, but reserves the right to eliminate or discontinue any of them or to add courses.

Accounting

Professors: Orton (chairman, 350 JKB), Andersen, Skousen, Smith.

Associate Professors: Johnson, Taylor.

Assistant Professors: Hubbard, McAllister, Park, Sonderegger, Stringham, Woodfield.

Instructors: Herde, Palmer.

The Department of Accounting trains students in the use of objective measuring methods in the financial dealings of business and attempts to develop men of high professional status in the use, analysis, interpretation, and projection of accounting data. The accountant must be aware of the dynamic changes in general business methods and goals and must develop practical methods of measuring and reporting these changes accurately and of integrating them into acceptable accounting terminology and procedures.

The training given leads to three principal areas of service: (1) the certified public accountant who serves industry and the public as an independent professional man skilled in accounting and auditing techniques; (2) skilled personnel in electronic data processing who must develop superior methods in the use of new, reliable, and communicable measures of performance which will aid in guiding the business and the economy in periods of rapid change; and (3) the controller or industrial accountant who can serve effectively in the management team, being conversant with and sensitive to the progressive innovations taking place in business. In this area the Accounting Department provides an opportunity for students to acquire the business management perspective which will qualify them for administrative positions. In addition to these three principal areas the accountant may engage in government service or enter the teaching profession.

Requirements

Students desiring to major in accounting must have completed the University general education requirements and the following College of Business core requirements.

Math. 108 (or equivalent)	3 hours
Econ. 111, 112	6 hours
Stat. 221	3 hours
Acctg. 201, 202, 232	9 hours

At the time the student transfers into the Department of Accounting he must have completed at least 62 semester hours of course work and have a 2.25 grade-point average in the college core courses. Prior to the completion of these requirements the student will be assigned to the Division of Business Fundamentals of the College of Business for advisement. See College of Business requirement.

Three-Year Master's Program. The Department of Accounting also offers the Three-Year Master's Degree Program. Students are permitted to enter this program at the beginning of their junior year in college and complete the program at the end of one year of graduate study. Details of this program may be obtained from the chairman of the Department of Accounting.

Majors. Majors in the Department of Accounting are required to take the courses listed below:

Bus. Mgt. 340 or 420, 347, 348	9 hours
Econ. 311 or 312	3 hours
Acctg. 301, 302, 312, 342, 356, 420, 475 and a minimum of three additional hours selected from course offerings originating in the Department of Accounting with the approval of the student's adviser. (Acctg. 596 and 600 numbered courses may not be selected for this purpose.) No more than 3 hours of "D" grade in accounting will be accepted toward graduation	24 hours

Students in accounting completing the college core and department requirements have a composite minor in business management and economics. Majors in the department may complete a second minor if they so desire.

Minors. Minors in the Department of Accounting should take the following courses:

Acctg. 201, 202, 301, and any additional six or more hours from the course offerings of the Department of Accounting except 232, 596, and 600 numbered courses.

Suggested Program for Accounting Majors

A suggested program which can be followed by accounting majors is given below. Each student will need to make modifications in this program to meet his individual problems. Courses marked with an asterisk (*) are required for graduation by the University, college, or department.

Junior Year	**Hours**
*Undergrad. relig. and dev. assy.	5
*Acctg. 301, 302 (Intermediate)	6
*Acctg. 312 (Cost)	3
*Acctg. 342 (Introduction to Commercial Law)	3
*Acctg. 356 (Accounting Information Systems)	3
*Bus. Mgt. 347 (Marketing Management)	3
*Econ. 311 (Income Analysis) or 312 (Price Analysis)	3
Acctg. 332 (Advanced Business Mathematics)	3
Bus. Ed. 320 (Report and Business Writing)	3
Forum assy.	1
	33

A number of alternatives are available to students in their senior year. Four plans are given below. Students should work closely with their adviser in selecting the program which will best meet the occupational and educational objectives.

Senior Year

No. 1. General Accounting Course	**Hours**
*Undergrad. relig. and dev. assy.	3
*Acctg. 420 (Federal Taxes)	3
*Acctg. 475 (Current Problems in Accounting Theory)	3
*Bus. Mgt. 340 (Industrial Organization and Management) or 420 (Organizational Behavior and Administration)	3
*Bus. Mgt. 348 (Financial Management)	3
Acctg. 442 (Advanced Business Law)	3
Acctg. 465 (Auditing Theory)	3
Bus. Mgt. 480 or 481 (Executive Lectures)	1
Forum assy.	1
Electives	9
	32

No. 2 Controllership and Industrial Accounting	Hours
*Undergrad. relig. and dev. assy.	3
*Acctg. 420 (Federal Taxes)	3
*Acctg. 475 (Current Problems in Accounting Theory)	3
*Bus. Mgt. 340 (Industrial Organization and Management) or 420 (Organizational Behavior and Administration)	3
*Bus. Mgt. 348 (Financial Management)	3
Acctg. 465 (Auditing Theory)	3
Acctg. 412 (Advanced Cost Accounting)	3
Stat. 330 (Statistical Methods Used in Business)	3
Bus. Mgt. 480 or 481 (Executive Lectures)	1
Forum assy.	1
Electives	6
	32

No. 3. Electronic Data Processing	Hours
*Undergrad. relig. and dev. assy.	3
*Acctg. 420 (Federal Taxes)	3
*Acctg. 475 (Current Problems in Accounting Theory)	3
*Bus. Mgt. 340 (Industrial Organization and Management) or 420 (Organizational Behavior and Administration)	3
*Bus. Mgt. 348 (Financial Management)	3
Acctg. 557 (Advanced Computer Programming)	3
Stat. 330 (Statistical Methods Used in Business)	3
Bus. Mgt. 480 or 481 (Executive Lectures)	1
Forum assy.	1
Electives	9
	32

No. 4 Professional Public Accounting	Hours
*Undergrad. relig. and dev. assy.	3
*Acctg. 420 (Federal Taxes)	3
*Acctg. 475 (Current Problems in Accounting Theory)	3
*Bus. Mgt. 340 (Industrial Organization and Management) or 420 (Organizational Behavior and Administration)	3
*Bus. Mgt. 348 (Financial Management)	3
Acctg. 442 (Advanced Business Law)	3
Acctg. 412 (Advanced Cost Accounting)	3
Acctg. 465, 466 (Auditing)	6
Bus. Mgt. 480 or 481 (Executive Lectures)	1
Stat. 330 (Statistical Methods Used in Business)	3
Forum assy.	1
	32

Courses

201. **Elementary Accounting.** (3:3:0) F.S.Su. Home Study also. (m) Prerequisite: Math. 108 or equivalent or consent of instructor.
An introductory series in basic bookkeeping techniques and control of business operations.

202. **Elementary Accounting.** (3:3:0) F.S.Su. Home Study also. (m) Prerequisite: Acctg. 201.
The second in the elementary series covering managerial problems and the control of business operations.

☐ **Business Education 206. Calculating and Posting Machines.** (2:3:2)

232. **Mathematics of Business.** (3:3:0) F.S.Su. Prerequisite: Stat. 221.
Application of mathematics to business problems.

301, 302. Intermediate Accounting. (3:3:0 ea.) F.S.Su. Home Study also. (m) Prerequisite: Acctg. 202.
Intermediate course in accounting for general business students and for majors who need a broad foundation for specialized studies which they will take later.

312. Cost Accounting. (3:3:0) F.S.Su. (m) Prerequisite: Acctg. 301.
An introduction to the principles and practices of cost accounting.

☐**Business Education 320. Report and Business Writing.** (3:3:0)

332. Advanced Mathematics of Business. (3:3:0) F. (m) Prerequisite: Acctg. 232 or Math. 111 or consent of instructor.
Selected topics from finite mathematics, vectors, and matrices, trigonometry, analytical geometry, and elementary differential and integral calculus as applied to business.

342. An Introduction to Commercial Law. (3:3:0) F.S.Su. Home Study also. (m)
A survey of modern American business law as it applies to everyday business practices.

356. Accounting Information Systems. (3:3:0) F.S.Su. (m) Prerequisite: Acctg. 202.
Procedures and problems in system design and related topics applied to the financial operations of the business with special emphasis to electronic computer systems.

412. Advanced Cost Accounting. (3:3:0) (Offered alternate semesters) (m) Prerequisite: Acctg. 312.
Budgeting, standard costs, cost analysis, and capital budgeting.

420. Federal Taxes. (3:3:0) F.S.Su. Home Study also. (m) Prerequisites: Acctg. 202 and preferably Acctg. 301.
Basic federal tax legislation and regulations.

442. Advanced Business Law. (3:3:0) S. (m) Prerequisite: Acctg. 342.
Business law for accountants and businessmen, with emphasis on laws covered in professional accounting examinations.

465. Auditing Theory and Professional Ethics. (3:3:0) F.S.Su. (m) Prerequisites: Acctg. 302 and 312.
Principles and methods of public accounting, professional responsibility and conduct, and verification techniques of accounts and financial statements.

466. Auditing Practice. (3:4:0) (Offered alternate semesters) (m) Prerequisite: Acctg. 465.
Practice in auditing techniques, including report writing and filings with regulatory bodies.

475. Current Problems in Accounting Theory. (3:3:0) F.S.Su. (m) Prerequisites: Acctg. 302 and 312.
Studies in current accounting theory.

501. Advanced Accounting. (3:3:0) (Offered alternate semesters) (m) Prerequisite: Acctg. 302.
Includes joint ventures, consignments, installments, receiverships, estates and trusts, statement of affairs, and municipal and governmental accounting.

502. Advanced Accounting. (3:3:0) (Offered alternate semesters) (m) Prerequisite: Acctg. 302.
Home office and branch accounts and parent and subsidiary accounting.

503. **Accounting for Nonprofit Organizations.** (3:3:0) (Offered 1967 and alternate years) (m) Prerequisite: Acctg. 302.
Accounting concepts and methods peculiar to governmental units, universities, hospitals, and other nonprofit organizations.

521. **Advanced Tax Problems.** (3:3:0) (Offered alternate semesters) (m) Prerequisite: Acctg. 420.
Advanced study of federal income tax, estate and gift taxes, and special problems in corporate taxation.

555. **Data Processing Systems.** (3:3:0) F. (m) Prerequisite: Acctg. 356.
Principles governing design and installation of accounting systems and the selection of equipment for optimum performance in data processing cycles.

557. **Advanced Computer Programing.** (3:1:3) S. (m) Prerequisite: Acctg. 356.
Emphasis on the solution of practical problems in data processing. Individual work on the University's computer and comparison of various computers in current use.

596. **Accounting Internship.** (1-3:3:Arr.) F.S.Su. Recommended prerequisite: Acctg. 465.

612. **Managerial Cost Accounting.** (3:3:0) (Offered alternate semesters) Prerequisites: Acctg. 302 and 312.
Study of specialized areas in cost determination and cost allocation.

615. **Controllership.** (3:3:0) (Offered alternate semesters) Prerequisites: Acctg. 302 and 412 or 612.
Organization of controller's office, control techniques, interpretation of data and policy information.

621. **Tax Research and Planning.** (3:3:0) (Offered alternate semesters) Prerequisite: Acctg. 420 and preferably Acctg. 521.
Research and solving of tax problems using the tax code, regulations and other sources.

675. **Theory of Accounts and Statements.** (3:3:0) (Offered alternate semesters) Prerequisites: Acctg. 302 and 312.
History and development of accounting and financial statements, their meaning and interpretation. Problems in current accounting theory will be considered.

686, 687. **C.P.A. Problems.** (3:3:1 ea.) F.S. Prerequisites: Acctg. 302, 420, and completion of or concurrent registration in Acctg. 465, 501, 502.
Preparation for professional examination.

691. **Research Seminar.** (1-3:1-3:0) F.S.Su. Prerequisite: approval of graduate advisory committee.
Seminar in current topics. Includes writing a research paper in proper form.

693. **Reading and Conference.** (1-2:1-2:0) F.S.Su.
Subject to be arranged with instructor.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
This course number should also be used for continuing registration by students working on thesis.

Aerospace Studies

Professor: Lt. Colonel Sharp (chairman, 20 T-15).

Assistant Professors: Captain Reeder, Captain Hastings, Captain Radichell, Captain Griffith.

Instructors: M/Sgt. Pearson, T/Sgt. Van Houten, S/Sgt. Maness, A/1C Bryant.

General Information. AFROTC is a voluntary program designed to produce highly qualified commissioned officers for the U.S. Air Force. The cadet specializes in the major field of his choice and graduates able to function as a junior executive. The aerospace studies courses supplement his academic major and are designed to teach principles and techniques of leadership and management in preparation for service as a commissioned officer in the air force and as a leader in civic and community affairs.

Eligibility. The beginning student must be a citizen of the United States and able to graduate from the program and the University by his 28th birthday. Two programs are offered and the student qualifies under the one which best meets his needs. (1) The Four-Year Program: this is the traditional collegiate ROTC program. It extends over the full four years of college. In this program all members attend a four-week field training at an air force base, normally between the junior and senior year of college. (2) The Two-Year Program: this new Air Force ROTC program allows a member to complete all requirements for an air force commission in two years of college. After meeting admission requirements, the applicant is sent to a six-week field training at an air force base during the summer. Upon return to college, the qualified applicant is enrolled in the two-year program.

Physical and academic standards for the basic course (freshman and sophomore) are the same as those of the University. To qualify for the advanced program under either the two- or four-year program, the cadet must pass a mental and physical examination during the sophomore year. At the beginning of the Fall Semester of his junior year, and with the approval of the University President, he executes an agreement to complete the last two years of AFROTC, attend four weeks' field training (except two-year students) and serve a tour of active duty with the air force upon graduation. He also is sworn into the air force reserves. Until these actions are completed, a student incurs no military obligation.

Enrollment. AFROTC is normally completed at the time of or shortly before graduation. Four-year students normally enroll in AFROTC during their first or second semesters at B.Y.U. Two-year applicants normally begin their processing during Spring Semester of their sophomore year and formally enter the program at the beginning of their junior year. Students desiring to enter the program at other times should consult the professor of aerospace studies.

Minor in Aerospace Studies: An academic minor in aerospace studies has been approved. Students desiring aerospace studies as a minor must complete the AFROTC requirements (including at least 14 hours of course work) and qualify for a commission in the United States Air Force. See the chairman of the Aerospace Studies Department for detailed information.

Textbooks, Uniforms, and Allowance. All items of the air force uniform and AFROTC textbooks are furnished by AFROTC. Two scholarship programs are available to AFROTC cadets during their last two years. Full scholarships are available to AFROTC cadets in the four-year program on a competitive basis. These scholarships include fees, tuition, $75 per year text allowance, and $50 per month monetary allowance. All other students in the advanced program receive from the air force a monetary allowance of $40 per month or about $800 for these two years. For further information, see the professor of aerospace studies.

Field Training. Field training at an air force base is a supplement to the academic program. This training develops in the cadet a better understanding of the air force mission and operation. Cadets receive additional practical experience in leadership and management in realistic situations on an air force base. The program emphasizes flying for those physically qualified and normally includes flight in a jet aircraft for each cadet. Cadets receive medical care, food, and clothing while attending the course. Cadets under the two-year program receive approximately $120.00 in pay for their six-week training and students under the four-year program receive about $115.00 for their four-week training. In addition, all cadets receive travel pay of $.06 per mile to and from the training base.

Flight Instruction Program. A flight instruction program is conducted at the Provo Airport by an accredited flying school. Senior cadets who qualify for pilot training are eligible to participate. Thirty-six and one-half hours of flying instruction are given, qualifying the student for a private pilot's license. Ground school instruction in navigation, weather, flight rules, and other appropriate subjects is given by USAF flying officers assigned to the Department of Aerospace Studies.

Orientation Flights. A series of orientation flights in air force aircraft is scheduled each year. Each cadet normally will have the opportunity of visiting air force bases and aircraft assembly plants. These flights, as well as those flights in jet aircraft at the field training, are flown by experienced air force pilots.

Extracurricular Activities. Each AFROTC cadet will be able to extend his academic and laboratory associations into many extracurricular activities. Among these activities are the Arnold Air Society, the AFROTC Chorus, the AFROTC Band, briefing teams, the annual Military Ball, and the many school service projects performed by the Cadet Corps. Cadet associations and friendships formed during this period continue long after college.

L.D.S. Missions. Students called on L.D.S. missions will be released from the AFROTC program. Special arrangements have been made with the air force to accept each missionary back into the program provided he still qualifies under the rules in force at that time.

Period of Nonattendance. Four-year-program students in AFROTC who are in a five-year program are allowed a year of nonattendance between the basic and advanced courses. During this period cadets remain deferred from the draft. They must, however, participate in leadership laboratory.

Draft Deferment. Students enrolled in the AFROTC program may be deferred from the draft after they have completed one or two semesters of aerospace studies.

Discipline. AFROTC cadets are civilians and are not subject to military law. Disciplinary training in the Cadet Corps is formulated and administered by the cadets themselves. Cadets are subject to the rules and regulations of the Department of Aerospace Studies and of the University. Violation of rules may mean discharge from the AFROTC program.

Veterans. One of the reasons the University sought the AFROTC program was to offer students, including veterans, an opportunity to improve their status. A veteran seeking a commission through AFROTC may have that part of the freshman and sophomore program waived which corresponds with military credit on his record. He should have at least four semesters remaining prior to graduation, which must be before his 28th birthday. Interested veterans should consult the professor of aerospace studies. Allowances are paid in addition to GI Bill benefits.

Course Fee. A $14.00 course fee is required of each participating student at the beginning of each school year. The purpose of this fee is to help offset uniform maintenance costs and to cover insurance and activity expenses.

The Program

The AFROTC Program is designed to fit into the regular academic schedule of the University. It consists of leadership laboratory, field training, and academic classes. The first two years for four-year students is designed to acquaint students with world military systems and present world conditions. The curriculum for the final two years for students on either the two-year or the four-year program emphasizes problem solving, research methods, communications techniques, human relations, creative thinking, management and leadership. It also is designed to provide an understanding of the United States Air Force and the many opportunities available to an air force officer.

Leadership Laboratory is required of each four-year student and is highly recommended for two-year students.

The academic program is taught by highly qualified air force officers and all academic work counts toward graduation requirements with several classes also meeting general education requirements.

The following is the normal sequence of AFROTC classes for four-year students. (Two-year students would follow the junior and senior schedule.)

Freshman Year

	F	S
AS 110, 111	½	½
AS 120	2	

Sophomore Year

	F	S
AS 220, 221	½	½
AS 210		2

Junior Year

	F	S
AS 310, 311	3	3
AS 330, 331	½	½

Senior Year

	F	S
AS 410, 411	3	3
AS 440, 441	½	½

Students qualifying for the Flight Instruction Program will also take Aerospace Studies 420 first block, Fall Semester of their senior year.

Out-of-phase students and those who will be student teaching should consult the department chairman.

Courses

110, 111. Leadership Laboratory—Freshmen. (½:0:2 ea.) F.S.
A practical learning situation teaching basic fundamentals of military drill, self-discipline, military courtesy, military organization, and various skills required at increasing levels of responsibility.

120. Defense of the United States. (2:2:0) F.
Freshman year: Effect of present world conflict on security of the United States, analysis of democracy and communism, U.S. power position in world affairs functions, of USAF.

210. World Military Systems. (2:2:0) S. (G-SS m)
Sophomore year: Comparative study of world military forces to include free world and communist air, land, and naval forces together with development and employment of military power.

220, 221. Leadership Laboratory—Sophomores. (½:0:2 ea.) F.S.

310. Growth and Development of Aerospace Power. (3:3:0) F.
Junior year: The air force today—how it evolved. Includes nature of military conflict; development of aerospace power; and doctrine, mission, organization, and employment of aerospace forces.

311. Astronautics and Space Operations. (3:3:0) S. (G-PS m)
Junior year: Current aerospace developments and their future implications. Includes discussion of national space effort, space vehicle systems and associated problems, and current and planned space operations.

330, 331. Leadership Laboratory—Juniors. (½:0:2 ea.) F.S. (m)

410. Leadership and Management. (3:3:0) F. Prerequisites: AS 310-311.
Senior year: Study of principles of leadership and management, problem solving, communication, discipline and human relations.

411. The Professional Officer. (3:3:0) S. (G-SS m) Prequisites: AS 310-311.
Senior year: Study of professionalism, air force personnel policies, military justice system, data processing orientation, air force control system and a briefing for commissioned service.

420. Flight Instruction. (2:2:0) F. Prerequisites: Six semester hours of advanced aerospace studies courses.
Senior year: A study of weather and navigational aspects of airmanship, preflight procedures and techniques, federal aviation regulations, emergency, preflight and communication procedures.

440, 441. Leadership Laboratory—Seniors. (½:0:2 ea.) F.S. (m)

AFROTC Cadet Color Guard lowering the flag

Agricultural Economics

Professors: Corbridge (chairman, 370 HGB), Nelson.

Assistant Professor: Infanger.

The Department of Agricultural Economics emphasizes the business and economic aspects of agriculture. A wide range of electives permits a student in this department to choose course work from many different areas. The student should work with advisers from the department to adapt his study program to his particular interests and needs.

Twenty-four hours, including Agr. Econ. 112, 325, 410, 490, 590; Econ. 111; and Statistics 221, are required for a major in agricultural economics. Students minoring in agricultural economics are encouraged to include Agr. Econ. 112, 325, and 410. Transfer students majoring in this department must earn at least 12 credit hours in their major field at Brigham Young University; those minoring must earn at least 7 credit hours.

A student is encouraged to concentrate on one of the following three options: (1) basic agriculture, for those returning to the farm and primarily interested in production courses; (2) preprofessional, for those planning graduate study; or (3) agri-business, for those principally interested in the business aspects of farming or in seeking employment in related business areas.

Basic Agriculture Option. A student electing this option is advised to consider:

Agr. Econ. 112, 320, 325, 326, 350, 360, 410, 425, 525, 580.
Agron. 151, 282 and/or 302, 305, 351, 455, 457.
An. Sci. 153, 207 and/or 161, 374.
Hort. 101 and/or 103, 310.
Indus. Ed.—classes as needed.
Econ. 111.
Math. 101 or 105.
Stat. 221.

Preprofessional Option. A student anticipating graduate training is advised to obtain a good background in mathematics, statistics, and economic theory.

The following classes should be included:

Agr. Econ. 112, 325, 410, 525.
Econ. 111 and/or 311, 312, 389.
Math. 105, 106 and 112 or Acctg. 332.
Stat. 221, 336 and/or 337.

Additional classes are recommended from among the following:

Agr. Econ. 320, 326, 350, 360, 425, 490, 580, 590.
Agron. 282 and/or 151.
An. Sci. 207 and/or 153.
Econ. 411, 412.
Hort. 101 and/or 103, 310.
Stat. 337.

Agri-Business Option. Business training is emphasized in this option. Recommended courses include:

Agr. Econ. 112, 325, 410 and one or more of 320, 326, 350, 360, 425, 490, 525, 580, 590.
Agron. 282 and/or 151.
An. Sci. 207 and/or 153.
Hort. 101 and/or 103, 310.
Acctg. 201.
Bus. Mgt. 348, 420, 451, 456, 457, 555, 557, 567, 569.
Econ. 111, 311, 312.
Geog. 231.
Stat. 221, 336 and/or 337.
Bus. Ed. 220 and/or 320.
Commun. 211 and/or 471.
Speech 101, 102.

The following sequence of courses is recommended:

Freshman Year	**Basic Agriculture**		**Pre-Professional**		**Agri-Business**	
	F	S	F	S	F	S
Undergrad. relig.	2	2	2	2	2	2
Health 130	2		2		2	
P.E.	½	½	½	½	½	½
Math. 105		3		3		3
Engl. 111, 112	3	3	3	3	3	3
Agr. Econ. 112	3		3		3	
Pol. Sci. 110		3		3		3
Dev. assy.	½	½	½	½	½	½
Forum assy.	½	½	½	½	½	½
Humanities and fine arts		2		2		2
One (or more) of the following: Agron. 151; An. Sci. 153, 207; Bact. 121; Bot. 101; Hort. 101, 103; Zool. 105	5	3	5	3	5	3
Total Hours	16½	17½	16½	17½	16½	17½

Sophomore Year	F	S	F	S	F	S
Undergrad. relig.	2	2	2	2	2	2
P.E.	½	½	½	½	½	½
Chem. 101		5		5		5
Econ. 111		3*		3		3
Econ. 274	3		3		3	
Acctg. 201			5		5	
Agr. Econ. 350	3		3		3	
Dev. assy.	½	½	½	½	½	½
Forum assy.	½	½	½	½	½	½
Biol. sci.	3	3	3		3	
Electives	2			3		3
Electives from the areas of an. sci., agron., hort.	3	3		3		3
Total Hours	17½	17½	17½	17½	17½	17½

*Optional

Junior Year

	F	S	F	S	F	S
Undergrad. relig.	2	2	2	2	2	2
Agr. Econ. 325	4		4		4	
Agr. Econ. 326		2				2
Agr. Econ. 410		4		4		4
Statistics 221	3		3		3	
Econ. 311				3		3
Agr. Econ. 320	2		2		2	
Agr. Econ. 360		2				2*
Acctg. 332 or Econ. 389			3		3*	
Dev. assy.	½	½	½	½	½	½
Forum assy.	½	½	½	½	½	½
Phys. sci.		3		3		3
Humanities and fine arts	2		2		2	
Electives	4	4	1	5	1	1
Total Hours	18	18	18	18	18	18

*Optional

Senior Year

	F	S	F	S	F	S
Undergrad. relig.	2	2	2	2	2	2
Agr. Econ. 425		3		3*		3
Agr. Econ. 490, 590	1	1	1	1	1	1
Agr. Econ. 525				2		
Agr. Econ. 380, 580	2	2*	2*	2	2*	2
Econ. 453				3	3	
Dev. assy.	½	½	½	½	½	½
Forum assy.	½	½	½	½	½	½
Electives	12	9	12	4	9	9
Total Hours	18	18	18	18	18	18

*Optional

Courses

101. Principles of Agricultural Economics. (3:3:0) S. (G-SS)

A terminal course in economic principles and problems—a broader, less intensive coverage than in Agricultural Economics 112—similar to Economics 101.

☐**Econ. 111, 112. Introduction to Economic Principles and Problems.** (3:3:0 ea.)

112. Economics and Agriculture. (3:3:0) F.S. Home Study also. (G-SS m)
Corbridge, Infanger

Basic general education course in economics with special reference to the agricultural sector of the economy.

☐**Math. 112. Analytical Geometry and Calculus.** (5:5:0)

☐**Stat. 221. Principles of Statistics.** (3:3:0)

☐**Econ. 311. Income Analysis.** (3:3:0)

☐**Econ. 312. Price Analysis.** (3:3:0)

320. Agricultural Business Organizations and Principles of Management. (2:2:0) F. (m) Prerequisite: Agr. Econ. 112. Corbridge

Organizational structure, problems, and relative importance of the types of business units with which agriculture is concerned, and planning the organization and operation of the business.

325. **Farm and Ranch Management.** (4:3:3) F.S. Home Study also. (m) Prerequisite: Agr. Econ. 112. Corbridge
Principles of farm management, including basic economic principles of optimum resource combination, farm records useful for income tax and farm management purposes, and budgeting procedures.

326. **Farm Management Programming.** (2:2:0) S. (m)
Application of electronic computers to the maintenance and analysis of farm-ranch production and financial records, with special emphasis on linear programming as an aid in determining maximum profit combinations of resources and enterprises.

☐**Acctg. 332. Advanced Mathematics of Business.** (3:5:0)

☐**Stat. 336. Statistical Methods Used in Sciences I.** (3:3:0)

☐**Stat. 337. Statistical Methods Used in Sciences II.** (3:3:0)

350. **Land and Range Economics.** (3:3:0) F. (m) Prerequisite: Agr. Econ. 112 or consent of instructor. Infanger
Analysis of economic problems related to land use, evaluation, conservation, ownership, and land management.

360. **Law and the Farmer.** (2:2:0) S. Home Study also. (m)
A general study of the law of contracts, real and personal property, taxes, water, and estate planning, with specific applications to the problems of agriculture.

380. **Agricultural Policy.** (2:2:0) F. (m) Infanger
A study of the basic economic principles useful in evaluating farm policy, the agricultural setting, objectives of agricultural policy, and the means of achieving desired policy objectives.

☐**Econ. 389. Introduction to the Elements of Mathematical Economics.** (3:3:0)

410. **Agricultural Marketing.** (4:4:0) S. Home Study also. (m) Nelson
Economic principles and their application to the marketing of major agricultural products.

425. **Farm Appraisal and Finance.** (3:3:0) F. Home Study also. (m) Corbridge
Training in farm appraisal for purpose of purchase, finance, and taxing. An evaluation of the principal sources of farm finance.

490. **Seminar.** (1:1:0) F. (m)

☐**Econ. 412. Theory of Price.** (3:3:0)

525. **Production Economics.** (2:2:0) S. (m) Prerequisite: Econ. 312.
Principles concerning the optimum combination of productive resources within the farm firm and between firms.

☐**Stat. 531. Experimental Design.** (3:3:0)

580. **Advanced Agricultural Policy.** (2:2:0) S. (m) Prerequisite: Agr. Econ. 380.
The theoretical and institutional setting of the agricultural industry, the objectives of farm policy, and the means of achieving these objectives.

590. **Seminar.** (1:1:0) S. (m)

595. **Individual Readings.** (1-3:Arr.:Arr.) F.S.

597. **Individual Research.** (1-3:Arr.:Arr.)

☐**Econ. 612. Advanced Price Theory.** (3:3:0)

658. **International Trade and Finance.** (3:3:0)

Agricultural Education

Professor: Walker (coordinator, 106 HGB).

Students who wish to prepare for teaching agriculture should follow the curriculum outlined below. In addition, they should meet the requirements outlined under the General Education Program and also the requirements for teacher certification as outlined under the College of Education.

Students who wish to be certified for teaching vocational agriculture will find it necessary to complete certain courses in the methods of teaching vocational agriculture which are given only at land-grant colleges and state universities.

Curriculum in Agricultural Education

Agricultural Education (Composite major—62 credit hours)		
Plant Sciences		20 hours
Agron. 151, 282	8 hours	
Hort. 101, 103, 312, or 350	6 hours	
Electives—Agron. 302, 305, 308, 340, 351, 455; Hort. 340, 402, 471; Bot. 462. Choose	6 hours	
	20 hours	
Animal Sciences		15 hours
An. Sci. 153, 207	6 hours	
Electives (any animal science course)	9 hours	
	15 hours	
Agricultural Economics		11 hours
Agr. Econ. 112, 325, 410		
Farm Mechanics (select 16 hours from the following courses)		16 hours
Indus. Ed.		
125—Electrical Welding	2 hours	
188—Farm Machinery	3 hours	
189—Gas and Diesel Engines	3 hours	
210—Carpentry Framing	3 hours	
218—Plumbing	2 hours	
317—Masonry	2 hours	
341—House Wiring	2 hours	
Drawing 111	3 hours	
Total		62 hours

Courses

101. The Agricultural Industry. (1:1:0) F. Morris

The agricultural industry in the United States and other countries. Career opportunities and the role of education, research, and extension in agricultural development.

391. Junior Seminar. (1:1:0) F. Walker

401. Extension Work in Agriculture. (3:3:0) S. Walker

Extension work in agriculture, its development, objectives, organization, programming, leadership development, and methods of instruction with adults and boys and girls.

Agronomy

Professors: Farnsworth (chairman, 173 B), Allred, Laws, Walker.

The purpose of the Department of Agronomy is to teach students, within the framework of the objectives of the University, the fundamental principles of soil science, field crop production, and their interrelationships. Graduates may prepare to pursue the following activities: (1) practical scientific farming, (2) graduate study toward the M.S. or Ph.D. degrees (opportunity in this area is unlimited), (3) government civil service (soil conservation, land management, etc.), (4) agronomist with commercial and industrial companies, and (5) agricultural education.

A minimum of twenty-four hours of course work and two hours of seminar (required of all seniors) is necessary for a major in this department. No "D" credit in agronomy may be counted toward the fulfillment of this requirement. A minimum of fourteen hours in a related field is required for a minor. The minor selected must have the approval of the department chairman.

A minimum of one year of chemistry is required of all students majoring in agronomy, and students planning to pursue activities other than practical scientific farming should plan on more than one year of chemistry. Transfer students majoring in this department, in addition to the above, are required to have at least sixteen credit hours in agronomy from Brigham Young University. Transfer students who minor in this department are required to earn a minimum of seven hours in agronomy at Brigham Young University.

Recommended Course of Study for Freshman and Sophomore Years

A student may begin his preparation by selecting either Option A or Option B.

Students electing Option A may qualify for graduate study or technical positions in government civil service and in commercial agriculture.

Students choosing Option B may qualify for less technical positions in government civil service and in commercial agriculture or for practical scientific farming.

Option A

Freshman Year	F	S	Sophomore Year	F	S
P.E.	½	½	P.E.	½	½
Undergrad. Relig. 121, 122	2	2	Undergrad. relig.	2	2
Health 130		2	Chem. 106, 223	4	3
Engl. 111, 112	3	3	Math. 112, 213	5	5
Math. 105*, 106	3	3	Agron. 282	4	
Bot. 101	3		Agr. Econ. 112	3	
Chem. 105		4	Hist. 170		3
Agron. 151	4		Bact. 121		3
Total Hours	15½	14½	Total Hours	18½	16½

*If a student has insufficient background in mathematics, he should take Math. 101 before registering for Math. 105.

Option B

Freshman Year

	F	S
P.E.	½	½
Undergrad Relig. 121, 122	2	2
Engl. 111, 112	3	3
Health 130		2
Math. 105*	3	
Bot. 101 or Zool. 105	3	
Agron. 151	4	
Chem. 101 or 105		4
Agr. Econ. 112		3
An. Sci. 207		3
Total Hours	15½	17½

Sophomore Year

	F	S
P.E.	½	½
Undergrad. relig.	2	2
Hist. 170		3
Chem. 151 or 106	4	
Agron. 282	4	
Hort. 101 or 103	3	
Dram. Arts 121	3	
Geog. 231		3
Stat. 221		2
Bact. 121		3
Electives		3-5
Total Hours	16½	18½

*If a student has insufficient background in mathematics, he should register for Math. 101 before taking Math. 105.

Students planning for a graduate program (which greatly enhances opportunity for employment) should minor in mathematics, chemistry, physics, or botany.

Students primarily interested in government civil service or commercial agriculture may minor in agricultural economics, animal science, botany, or chemistry.

Students with an opportunity to return to the farm may minor in agricultural economics, animal science, botany, horticulture, or industrial education.

Courses

151. **Principles of Field Crop Production.** (4:3:2) F.S. (m) Allred
Crop production principles, soil-plant relationships, classification and distribution of farm crops, corn and small grain improvement, tillage, and crop rotation.

282. **General Soils.** (4:3:3) F.S. (m) Recommended: high school chemistry or one semester of college chemistry. Farnsworth
An introductory course dealing with the physical, chemical, and microbiological properties of soils.

302. **Irrigation and Drainage.** (3:2:3) S. (m) Prerequisites: Agron. 282, Math. 101 or 105. Farnsworth
Proper use of irrigation waters; irrigation water supply; water measurements; drainage in relation to the irrigation practices; drainage and alkali; drainage systems.

303. **Soil Genesis, Classification, and Survey.** (2:2:2) F. (m) Prerequisite: Agron. 282. Recommended: Geol. 111. Woodward
Influence of geologic forces and climatic environment on soil development; classification of soils based upon soil profile characteristics. Methods of soil survey are emphasized.

305. **Soil Fertility.** (4:3:3) F. (m) Prerequisites: Agron. 282, and one semester inorganic chemistry (101 or higher). Laws
Principles of soil fertility, commercial fertilizers, farm manures, green manures and crop rotations in crop production. Soil chemical analysis, soil testing and soil alkali.

308. **Soil and Water Conservation.** (2:2:0) F. Home Study also. (m) Farnsworth
History and status of soil erosion and soil fertility; effect of climatic factors, soil characteristics, vegetation, land management, and farm operations on soil and water conservation and on the maintenance of soil fertility and productivity.

340. **Forage Crops.** (3:2:2) F. (m) Recommended: Agron. 151. Allred
Distribution, characteristics, identification, and establishment of all major forages adapted to grasslands of the U.S.

351. Principles of Weed Control. (3:3:2) S. (m) Recommended: Agron. 151, 282. Allred

Cultural, chemical, and biological methods of weed control.

411. Soil Physics. (3:2:3) S. (m) Prerequisites: Agron. 282, Math. 101 or 105, one semester inorganic chemistry (101 or higher). Laws

Physical properties of soils and their effects upon air, water, and temperature in relation to soil management and crop production.

414. Soil Microbiology. (3:2:3) S. (m) Prerequisites: Bact. 121, Agron. 282. Farnsworth

Designed to acquaint the student with bacteria in relation to soil fertility; the activity and types of organisms in the rhizosphere; the biological processes in the soil.

453. Root, Oil and Specialized Crops. (3:3:0) F. (m) Prerequisites: Agron. 151, 282. Allred

Principles and special problems related to production of sugar beets, potatoes, oil crops and primary seed crops.

455. Pasture Management. (2:2:0) S. (m) Prerequisites: Agron. 151, 282. Recommended: Agron. 340. Laws

Establishment, fertilization and management of new pastures, development of pasture systems to provide maximum grazing for livestock.

457. Ecology of Weeds and Crops. (2:2:0) Su. (m) Allred

Field study of important grasses, legumes, other agronomic crops, and weeds; adaptation to soil, moisture, light, and other environmental conditions; growth characteristics, utilization, and control.

459. Plant Breeding. (2:2:0) S. (m) Prerequisites: Bot. 276, 376 or Zool. 276. Allred

Principles of breeding and selection, practices and methods of hybridization for development of improved varieties of crop plants.

460. Soil and Plant Analysis. (2:0:6) F. Prerequisites: Agron. 305, Chem. 223. Laws

Laboratory chemical analysis of soils and plant materials in soil fertility research.

491. Seminar. (1:1:0) F.S.Su. (m)

Current agronomic literature. Agricultural problems. Two semesters required of all senior students majoring in agronomy.

495. Field Projects. (2-3:0:4-6) F.S.Su.

Supervised field research and practical field problems.

497. Special Problems. (1-2:1-2:0) F.S.

Seniors specializing in agronomy elect research work from one to two hours during senior year.

498. Agricultural Literature and Agronomy Conference. (1-2:1-2:0) F.S.Su.

605. Chemistry of Soil-Plant Relationships. (4:3:3) S. Laws

607. Soil Physical Conditions. (3:2:3) F. Laws

614. Advanced Soil Microbiology. (3:2:3) F. Farnsworth
Prerequisites: Agron. 305, Bact. 121, Chem. 223.

659. Advanced Plant Breeding. (2:2:0) S. Allred

694. Seminar. (1:1:0) F.S.Su.

697. Research. (Arr.) F.S.Su.

698. Agricultural Literature. (Arr.) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

Animal Science

Professors: Shumway (chairman, 280 HGB), Cannon, Morris.

Associate Professors: Hoopes, Wallentine.

Assistant Professors: Call, Gardner, Park.

Instructors: Mikkelsen, Pace.

The Department of Animal Science offers training for the following activities: (1) commercial and government agricultural positions, (2) preparation for study toward the M.S. and Ph.D. degrees, (3) agricultural teaching, (4) positions in meat, dairy, and food industries, (5) livestock managers, (6) practical livestock farming and operation, and (7) preveterinary preparation.

A minimum of 28 credit hours of course work in the Animal Science Department is required to obtain a major in animal science. The 28-hour minimum must include the following animal science courses: 121, 153, 207, 311, 592, and either 507 or 515. Freshman or transfer students should enroll in Agr. Ed. 101. Students desiring specialization in dairy, meat and food sciences may select alternate requirements under departmental advisement.

Transfer students majoring in animal science must earn at least 14 credit hours in their major field at Brigham Young University. Transfer students minoring in this department must earn at least 7 hours in animal science at Brigham Young University.

Animal science majors are encouraged to take more than the required number of hours needed for graduation in both the physical and biological sciences. (See "General Education Program" in the Student Academic Services Section of this catalog.)

Animal science students are required to take one or more courses from each of the following areas:

Agr. Econ. 112, 325, 410.
Agron. 151, 282.
Chem. (two semesters)
Hort. 101, 103, 310.

Students planning to return to the farm or to do professional agricultural work should fill elective courses from the following areas depending on specific interests and needs (courses shown are merely suggested):

Acctg. 201.
Agr. Econ. 112, 325, 326, 360, 410, 425.
Bact. 121, 361, 371.
Bot. 101, 450, 462, 466.
Bus. Mgt. 420.
Bus. Ed. 220.
Chem. 101, 151, 384.
Commun. 101, 211, 427.
Indus. Ed. 110, 120, 125, 188, 189, 218, 317, 341, 411.
Speech 102.
Dram. Arts 121.

Preveterinary requirements are listed under the College of Biological and Agricultural Sciences in this catalog.

Students planning to do graduate work should elect from the following courses:

Stat. 221, 336, 337, 531.
Bact. 121, 311, 371, 501.
Bot. 101, 376, 501.
Chem. 105, 106, 223, 351, 352, 384, 385.
Math. 105, 106.
Zool. 212, 213, 370, 373, 376, 417, 465.

The schedule shown below is a suggested outline for animal science majors:

Freshman Year

	F	S
Engl. 111, 112	3	3
Undergrad. relig.	2	2
P.E.	½	½
Health 130, biol. sci.	3	2
An. Sci. 153, 207	3	3
An. Sci. 121 & electives	3	3
Electives & Agr. Ed. 101	2	3
Total Hours	16½	16½

Sophomore Year

	F	S
Undergrad. relig.	2	2
An. sci., electives	4	4
Biol. sci.	3	
P.E.	½	½
Chem. 101, 151	5	5
Electives	2	5
Total Hours	16½	16½

Courses

102x. History of Breeds of Livestock. (3) Home Study only. (m) Shumway

120. Livestock Judging and Selection. (2:0:4) S. (m) Park
Animal type and its relation to the function of animals.

121. Principles of Animal Production. (3:3:3) F.S.Su. (m)
Methods of management and production of animals and animal products.

153. Fundamentals of Animal Breeding. (3:3:0) F. (m) Park
Principles involved in breeding animals, including physiology of reproduction, heredity, variation, selection and systems of breeding.

160. Introduction to Dairy and Food Technology. (3:3:0) F. (m) Call
Utilization of agricultural products in the food industry, modern food processing and distribution methods.

161. Elements of Dairying. (4:3:3) F. (m) Gardner
General principles of breeding, feeding, and management of dairy cattle.

162A,B. Dairy Production Laboratory. (1-2:2:3-6 ea.) F.S. (m) Prerequisite: completion of or concurrent registration in An. Sci. 161. Pace
Each student is required to feed, care, manage, and milk his own cows at the University laboratory area. Feeding, sanitation, and management are stressed.

207. Feeds and Feeding. (3:3:0) F.S.Su. (m) Shumway, Gardner
Principles of nutrition and their application to all types of livestock.

208. Animal Fitting and Showing. (2:0:6) S. (m) Shumway
Demonstrations and discussions involving preparation of each type of livestock for show. Each student is assigned animals to fit and show at one of the spring shows and the campus livestock show.

☐**Statistics 221. Principles of Statistics.** (3:3:0) (m)

225. Meat Identification and Preparation. (2:1:3) F. Home Study also. Wallentine
A study of inspection, grading, identification, selection, processing, preparation and nutritive aspects of meat and poultry.

311. Animal Physiology and Anatomy. (4:3:2) F. (m) Prerequisite: Zool. 105 or equivalent. Hoopes
Applied study of the structure and functions of the animal body by systems.

312. Animal Hygiene. (4:3:3) S. (m) Prerequisite: An. Sci. 311; recommended: Bact. 121. Hoopes
Principles of animal sanitation in relation to disease prevention, with emphasis on the stockmen's approach to animal disease control.

321. Introduction to Research in Animal Science. (2:0:4) F.S.Su. (m)
Designed to acquaint students with current research projects, methods, design, techniques and procedures of research work in the animal sciences.

325. Meat and Meat Products. (3:2:3) F.S. (m) Wallentine
The marketing and care of meat from packer to consumer including inspection, processing, selection and freezing. Field trips are required.

326. Meat Evaluation. (1:0:3) S.Su. (m) Prerequisite: An. Sci. 325. Wallentine
A study and classification of market classes and grades, evaluation and selection of carcasses and wholesale cuts. Field trips are required.

328. Meat Processing Methods. (2:1:3) F.S. (m) Wallentine
A study of meat product quality as related to source, preparation and processing.

330. Horse Husbandry. (2:1:3) S. (m) Hoopes
A brief study of breeds of horses, with emphasis on feeding, management and selection.

335. Beef Cattle Production. (3:2:3) F. Home Study also. (m) Shumway
The application of nutrition, genetics, physiology, and management to the production of beef cattle.

☐**Statistics 336, 337. Statistical Methods Used in the Sciences.** (3:3:0 ea.)

340. Sheep Production. (2:1:3) S. (m) (Offered alternate years) Wallentine
The application of nutrition, genetics, physiology and management of range and farm sheep operations.

345. Swine Production. (2:1:3) S. (m) (Offered alternate years) Shumway
The application of nutrition, genetics, and physiology to the production of swine.

361. Food Microbiology. (2:1:3) S. (m) Prerequisite: Bact. 121 or equivalent. Hoskisson
The microbiology of food.

362A,B. Advanced Dairy Production Laboratory. (1-2:0:3-6) F.S. (m) Pace
Specific instruction and responsibility are given in modern milking methods, care and handling of milk, the pregnant cow, young calf, the fresh cow, the lactating cow.

365. Milk and Milk Processing. (3:2:2) F.S.Su. (m) Call
Modern methods of processing and distribution of market milk and related products.

366. Ice Cream and Related Frozen Dairy Foods. (3:2:2) S.Su. Hoskisson
Selection and preparation of materials, processing, merchandising, and quality control.

367. Butter and Cheese Manufacture. (3:2:2) S.Su. Call
Scientific and technical aspects of manufacturing, packaging, marketing, and quality control of butter and cheese.

371. Dairy Microbiology. (2:1:3) F. (m) Prerequisite: Bact. 121 or equivalent. Hoskisson

The microbiology of dairy products.

374. The Science of Poultry Production. (4:3:3) F. (m) Morris

Animal science as applied to present-day poultry husbandry. Special emphasis will be placed on feeding, management, environmental control and disease prevention.

378. Turkey Management. (2:0:4) S. (m) Morris

Principles, practices, and problems of turkey production, including brooding, feeding, growing and marketing.

420. Advanced Judging. (2:0:6) F. (m) Prerequisite: An. Sci. 120. Park

Advanced work in livestock judging. The judging team is selected from this class.

421. Special Problems in Meat Animal Selection. (1:0:3) F. (m) Park

460A,B,C. Dairy Plant Management and Operation. (2:0:6) F.S.Su. (m) Hoskisson

Practical experience in dairy manufacturing and plant operation.

463. Artificial Insemination. (2:0:4) F. (m) Prerequisite: An. Sci. 153. Hoopes

Methods and techniques of artificial breeding are studied and accompanied by laboratory work.

466. Dairy Chemistry. (3:2:3) F. (m) Call

Composition of milk and the changes induced by processing and manufacture of dairy products.

468. Analysis of Dairy Products. (3:1:6) S. (m) Call

Methods of analysis used in the processing and manufacture of dairy products and in grading and quality control.

507. Animal Nutrition. (3:3:0) S. (m) Gardner

515. Advanced Animal Breeding. (3:3:0) S. (m) Park

525. Meat and Food Processing Plant Operations. (2-6:½-1½:10-30) F.S.Su. (m) Call, Wallentine

Prerequisite: An. Sci. 325, 328, Agr. Econ. 410 or equivalent.

☐**Statistics 531. Experimental Design.** (3:3:0) (m)

560. Advanced Dairy Production. (3:3:0) S. (m) Gardner

592. Seminar. (2:2:0) F.S. (m) Cannon

A critical review and analysis of current research, findings, and methods in animal agriculture.

601. Experimental Animal Techniques. (2:2:0) F.S. (m)

660. Advanced Livestock Management. (2:1:3) S. (m)

691A,B,C,D. Animal Science Research. (1-2:0:3-6 ea.) F.S. (m)

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. (m)

Anthropology and Archaeology

Professor: Jakeman.

Associate Professor: Christensen (chairman, 139 M).

Assistant Professors: Matheny, Myers.

Archaeology is the science which investigates the history of man from the evidence of his actual material remains—ruined buildings, broken implements and pottery, ancient art works, monuments and tablets bearing inscribed records, etc. By means of such evidence it is able not only to reconstruct much of the unwritten history of man but also to increase greatly our knowledge of the ancient periods of written history. In other words, it is one of the historical sciences—the companion discipline of documentary history, or the investigation of man's past exclusively from the evidence of written records. It is also, like history, one of the humanities, as well as, in part of its work, a social science.

Anthropology, on the other hand, studies living human groups as to their rituals and beliefs, systems of kinship and marriage, political institutions and law, products, languages, and other ways of life. The ultimate aim of these studies is the discovery of the common elements in the cultures of all societies, or in the regularities of human group behavior. It also investigates the variations of man as a biological species, both from the evidence of his physical remains recovered by archaeologists and the evidence of the physical characteristics of living peoples. Anthropology is, therefore, both a social and biological science but has its main interest in the workings of culture and shares much of its theory and method with the social science of sociology.

But although archaeology and anthropology each have important extraneous connections, the two disciplines are also closely related to each other. Not only does archaeology supply anthropology with much of the evidence which the latter needs for its study of the cultural and racial variations of man, but anthropology also assists archaeology with data and concepts the latter needs for its cultural and historical interpretations of the remains of ancient peoples. Consequently, the two disciplines are often taught in the same department, especially at American universities.

A basic understanding of the concepts, methods, and substantive knowledge of each of these two fields is required of every student who seeks to qualify for a baccalaureate degree in this department. Besides acquiring this general background (see General Introductory Courses, below), the student also elects to major in either the archaeology curriculum, which leads to the Bachelor of Arts degree, or the anthropology curriculum, which leads to the Bachelor of Science degree. The student who chooses the archaeology major may further concentrate on historic archaeology (mainly Near Eastern-biblical and related fields) or prehistoric archaeology (mainly American); while the student who chooses the anthropology major may further concentrate on ethnography, social anthropology, or linguistics.

General Introductory Courses

Every student majoring in this department is required to take each of the following courses, and it is to his advantage to have completed them by the end of his sophomore year: Anthropology 101, 105, and 120; Archaeology 200 and 250. These are not sequent courses, but it is recommended that Anthropology 101 and Archaeology 200 be taken first.

ANTHROPOLOGY

Professional qualification as an anthropologist requires graduate training, ideally to the Doctor of Philosophy degree. A student usually specializes in graduate school as an ethnologist, social anthropologist, linguist, or physical anthropologist, once he has obtained a broad knowledge of the discipline at the undergraduate level.

The undergraduate major in anthropology requires, in addition to the general introductory courses listed above, nineteen semester hours of anthropology courses selected in the student's field of special interest in consultation with his adviser. It is recommended that two ethnography courses be included.

The minor or collateral subject to accompany a major in anthropology, if the intended field of specialization is ethnology or social anthropology, should be archaeology, geography, political science, sociology, or psychology; if linguistics, it should be English or a foreign language; if physical anthropology, it should be zoology, with courses also in historical geology and paleontology.

An undergraduate minor in anthropology requires the completion of sixteen semester hours in this subject, including Anthropology 101 and 105. This subject makes a valuable minor to accompany a major in archaeology, a foreign language, geography, political science, psychology, or sociology.

Courses not offered one year are normally given the next.

Areas of Concentration

Ethnography. Ethnography refers to the descriptive accounts of the cultural and social life of peoples. All branches of anthropology make use of ethnographic data; yet each branch has its own theoretical and methodological interests and differs in the use made of such data. The ethnologist uses them to trace the migrations of peoples and to reconstruct culture history. The linguist employs them in his study of the relationship between language and culture. Ethnographic data provide the physical anthropologist with material for the study of the biological component in culture. The social anthropologist studies social process as this goes on in the here-and-now of contemporary societies, which involves the role of custom in marking out and maintaining the key relationships in the social structure.

It is because of the general use made of ethnographic data that all anthropology majors are advised to complete at least two of the following courses: Anthropology 111, 317, 318, 319, 320, 330, 340, 350, and 491.

Social Anthropology. The social anthropologist studies regularized or institutionalized human behavior as it occurs in the context of kinship, marriage, and family relationships; political actions and legal procedures; economic activities; and religious and cult affairs. He also studies the interrelationship of these activities in the total flow of social life. His interest embraces both contemporary societies and historical ones where adequate descriptive data are available. Through such studies he attempts to learn what is common and general in all human societies. So the student in this field should not only be grounded in theory and method, but also have a good foundation in the comparative ethnography of various peoples.

Anthropology majors wishing to concentrate in this field should select their courses from among the following: Anthropology 430, 431, 432, 433, 480, 481, and 492; and Sociology 552.

Linguistics. The interest of the anthropologist in the study of linguistics arises out of the nature of language as an element of culture. He studies the speech usages of a people or a community in an effort to ascertain the relationship between language on the one hand and matters such as technology, economics, political and legal procedures, ritual practices and social stratification on the other. In short, this field is concerned with symbolic processes in society. Anthropological linguists are also interested in the formal aspects of language structures and in the historical processes of variation and change in languages.

Anthropology majors wishing to concentrate in this field should select the following: Linguistics 325, 326, and 493 (see Department of Languages).

Courses

101. General Ethnology. (3:3:0) F.S. Home Study also. (G-SS) Christensen, Matheny, Myers

Race, culture, and environment; society and economy in relation to habitat; technology, invention, and diffusion; regional variations and distribution of cultural and linguistic groups.

105. Introduction to Social Anthropology. (3:3:0) F.S. (G-SS) Myers

Scope, concepts, and methods; cultural and universal needs; transmission and adaptations of culture; social organization in the family and wider society; beliefs, values, social control.

111. Cultures of the World. (3:2:2) S. Home Study also. (G-SS) Matheny

The variety of behavioral patterns seen through a study both of a sample of societies and of geographical distributions of cultural features.

120. Physical Anthropology. (2:2:0) F. Prerequisite: Bot. 101, Zool. 105, or consent of instructor. Matheny

Human biology as a factor in explaining behavior differences, with emphasis on evolution and genetics.

317. Native Peoples of North America. (2:2:0) F. Myers

A survey of the Indian and Eskimo peoples of the United States and Canada at European contact; their adaptation to environment, social organization, beliefs, and values (formerly Anthrop. 417).

318. Native Peoples of Middle America. (2:2:0) S. Jakeman

A survey of the Indian peoples of Mexico, Central America, and the West Indies at European contact, with special attention to those of Mesoamerica (formerly Anthrop. 418).

319. Native Peoples of South America. (2:2:0) S. Christensen

A survey of the Indian peoples of South America at European contact, with special attention to those of the Central Andean region (formerly Anthrop. 418).

320. The North American Indian Today. (2:2:0) F. Myers

Conditions among and problems confronting the major Indian groups of North America at the present day (formerly Anthrop. 302).

☐**Linguistics 325. Introduction to Descriptive Linguistics.** (3:3:0)

☐**Linguistics 326. An Introduction to Historical and Comparative Linguistics.** (3:3:0)

330. Peoples of Africa. (3:3:0) F. Myers

A survey of the peoples of Africa south of the Sahara; their adaptation to environment, social organization, beliefs, and values (formerly Anthrop. 413).

340. Peoples of the Middle East. (3:3:0) F. Matheny

A survey of the peoples of the Middle East with emphasis on social systems. Includes the nomads and settled agriculturists as well as urban peoples (formerly Anthrop. 415).

350. Peoples of South and East Asia. (3:3:0) S. Matheny

A survey of the peoples of south and east Asia, with emphasis on cultural traditions. Includes social organization, beliefs, and values (formerly Anthrop. 414).

430. Moral and Ritual Institutions. (3:3:0) F. Myers

Religion, magic, witchcraft, sorcery, mythology, cosmology, totemism; morality in the simpler societies in relation to ritual and belief; comparative religion (formerly Anthrop. 305).

431. Systems of Kinship and Marriage. (3:3:0) F. Myers

Types of kinship and marriage systems in various societies; their relationship to political, legal, economic, and ritual institutions.

432. Political and Legal Institutions—Primitive Peoples. (3:3:0) S. Myers
Stateless societies and the evolution of the state; kingship, chiefship, and achieved leadership; councils; warfare; law, custom, and public and private wrongs; sanctions; judicial institutions.

433. Economic Institutions. (3:3:0) S. Myers
Organization of production, consumption, and exchange, and their relation to other structured activities in nonindustrial societies; wealth, capital, labor, land tenure, and property (formerly Anthrop. 333).

480. Theoretical Social Anthropology. (3:3:0) F. Myers
The development of scientific social anthropology since 1850, with emphasis on modern trends in theory.

481. Field Methods in Social Anthropology. (2:2:1) S. Myers
The interrelationship between field methods and theory; the development of field techniques; field excursion.

491. Readings in Ethnography. (1-2:0:0) F.S.Su.
Guided reading and report on a subject agreed upon by student and teacher. Approximately 1,000 pages assigned per credit hour.

492. Readings in Social Anthropology. (1-2:0:0) F.S.Su.
Guided reading and report on a subject agreed upon by student and teacher. Approximately 1,000 pages assigned per credit hour.

☐**Linguistics 493. Readings in Linguistics.** (1-3:0:Arr.)

☐**Sociology 552. Personality: Culture and Society.** (3:3:0)

ARCHAEOLOGY

Instruction is offered in this department in both the main divisions of archaeology, i.e. the prehistoric, or that of the unwritten periods of human history (culture-centered archaeology), and the historic, which has as its purpose the adding to, checking, clarification, and supplementation of the written records of history (text-centered archaeology, such as biblical and classical). The emphasis of the course offering is on the latter division, historic archaeology.

Attention is also given to the methods of archaeological research, and provision is made for practical in-service training in field and laboratory procedures. Undergraduate students may participate in excavations at sites in central Utah, while graduate students may sometimes accompany University expeditions to southern Utah, Mexico, or Central America.

The undergraduate major in archaeology requires, as well as the general introductory courses listed above, Archaeology 310 and 350 and thirteen additional semester hours of archaeology courses selected in the student's field of special interest in consultation with his adviser.

The minor or collateral subject to accompany this major, if the student desires to specialize in prehistoric archaeology, should be anthropology, with courses also in geology and paleontology; but if in historic archaeology, it should be history, art, or an ancient language. (If the field of interest is that of the fundamental problems of the origin of civilization in the Near East and of the ancient civilizations of the New World, and in the connected field of the archaeology of the Hebrew-Christian and Latter-day Saint scriptures—a branch of historic or text-centered archaeology given special attention in this department—the student should select history as his minor, including early oriental history, with courses also in biblical studies and Hebrew.)

An undergraduate minor in archaeology requires the completion of sixteen semester hours in this subject, including courses 200 and 250. This subject makes a valuable minor to accompany a major in anthropology (with specialization in ethnography), history (with specialization in ancient history), art (with specialization in art history), or one of the ancient languages; as well as a valuable accompaniment of studies in the Hebrew-Christian and Latter-day Saint scriptures.

The graduate major and minor in archaeology are also offered. The graduate major, leading to the Master of Arts degree, further prepares the student for teaching and research. (The best preparation for a professional career in this field is of course the Doctor of Philosophy degree in addition to the master's—in anthropology if specialization is to be in prehistoric archaeology, or in history if specialization is to be in historic archaeology).

For the master's degree in archaeology at least fifteen semester hours of graduate credit are required in this subject, and at least nine additional semester hours in a minor field approved by the department, as well as an acceptable thesis. (For further information on the requirements for the master's degree in archaeology, see the catalog of the Graduate School.)

Courses beginning with Archaeology 451 are designed for students planning a career in archaeology, either professional or amateur—particularly those with special interest in the two fields bearing upon the fundamental problems of the origin of civilization in the Old World and of the ancient civilizations of the New World, i.e. Near Eastern-biblical and Middle American-Andean.

Courses not offered one year are normally given the next year.

Courses

200. **Introduction to Archaeology.** (3:3:0) F.S. (G-SS) Christensen, Jakeman
The aims, methods, main fields, and major excavations and discoveries of archaeology; and a survey of the antiquities and ancient arts of both hemispheres.

250. **World Archaeological History.** (4:3:2) S. (G-SS) Jakeman
The early history of man in both hemispheres, as revealed mainly by archaeology, with special attention to the rise of civilization, and to ancient technology.

☐**History 300. Early Oriental History.** (2:2:0)

310. **Historic Near-Eastern and Biblical Archaeology.** (3:3:0) F. Christensen, Jakeman
The antiquities of the Near East (Egypt and western Asia), the ancient history and civilizations of that area, and the historical narratives of the Bible.

318. **Classical and Christian Archaeology.** (2:2:0) S. Jakeman
The major excavations, monuments, and art works of the Mediterranean region, adding to, checking, and illustrating ancient Greek, Roman, and early Christian history.

327. **Prehistoric Archaeology of the Old World.** (2:2:0) S. Christensen, Matheny
The early culture-history of the eastern hemisphere, with special attention to the development of the prehistoric civilizations of the Copper, Bronze, and Iron ages.

350. **Early History of Middle America.** (3:3:0) F. Christensen, Jakeman
An introduction to the pre-Spanish history of Mexico and Central America, as recorded in the Indian and Spanish chronicles, with a preliminary archaeological checking of these writings.

355. **Archaeology of Middle America.** (2:2:0) S. Jakeman
A study in the archaeological history of Mexico and Central America, and a comparison with the early chronicled history studied in course 350 (formerly Archaeol. 440).

365. **Archaeology of South America.** (2:2:0) S. Christensen
The results of archaeological research in South America, especially Peru, and a comparison of this with the early chronicled history of the latter area.

375. **Archaeology of North America.** (2:2:0) S. Christensen, Matheny
Results of archaeological research in North America north of central Mexico, especially as to the later prehistory of eastern United States and the Southwest.

☐**Art 403. Ancient and Primitive Art.** (2:2:0)

451. Methods of Archaeological Research: General and Field. (4:0-2:4-8) F. Christensen, Matheny
Training in field and laboratory procedures, including student participation in the excavation of a site in Utah Valley and in processing the excavated materials (formerly Archaeol. 551).

471. Methods of Archaeological Research: Interpretative. (2:0-2:0-4) S. Christensen, Jakeman
Laboratory analysis of archaeological materials, and methods of cultural, chronological, and historical interpretation (formerly Archaeol. 571).

500. History and Theory of Archaeology. (2:2:0) F. Christensen, Jakeman
The development of archaeology as a scientific discipline and the theoretical foundations upon which it rests.

541. Museum Studies. (1-4:1:2-6) F. (formerly Archaeology 641).

590. Seminar. (2:2:0) S.
Practice in the critical evaluation of archaeological writings. Each student writes a paper in an area of his choice, which is then presented and discussed in class.

594. Readings in Archaeology. (1-3:0:0) F.S.Su.

611. Introduction to the Mesopotamian Inscriptions. (2:2:0) F. Jakeman
The ancient writings of Mesopotamia, pictographic and cuneiform; their decipherment, history of development, and study in the light of and for light on other archaeological findings. (For courses in the actual reading of Mesopotamian inscriptions see Semitic Languages 793 and 794, Akkadian.)

631. Introduction to Mesoamerican Hieroglyphics and Iconography. (2:2:0) F. Jakeman
The religious art and writings of ancient Mexico and Central America; their partial decipherment and their study in the light of and for light on other archaeological findings.

651. Advanced Field Methods of Archaeology. (5:0:15) F.S.Su.
Further in-service training in field methods as a member of a University archaeological expedition to southern Utah, Mexico, or Central America. (Lab. hours do not include travel time.)

671. Advanced Interpretative Methods. (2:2:2) F.S.
Methods of quantitative handling of archaeological data, such as statistical and computer analysis; new techniques of absolute dating with the aid of physics and chemistry.

695. Library Research in Near Eastern and Biblical Archaeology. (2:0:6) F.S.Su.
Independent library research in Mesopotamian, Egyptian, Palestinian, Old Testament, or other Near Eastern or biblical archaeology.

696. Library Research in Middle American-Andean Archaeology. (2:0:6) F.S.Su.
Independent library research in Mesoamerican or Peruvian archaeological and chronicled history, Mesoamerican hieroglyphic decipherment, or the origins of the Middle American-Andean civilizations.

697. Field Research. (5-10:0:15-30) F.S.Su.
Individual field research in western United States, Middle America, Peru, or the Near East. (Lab. hours do not include travel time.)

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

Art

Professors: Andrus, de Jong (emeritus), Gunn, Larsen (emeritus), Mathews.

Associate Professors: Turner (chairman, C502-B HFAC), Weaver, Wilson.

Assistant Professors: Breinholt, Burnside, Darais, Johansen, Magleby.

Instructors: Fletcher, Takasaki.

Special Instructors: Forster, Luch, Taylor.

The programs leading to a major in art are planned for those who desire to pursue a general art course or to prepare for careers in art education, commercial art, interior design, painting, printmaking, sculpture, ceramics and art crafts.

The Art Department offers four degrees: Bachelor of Arts, Bachelor of Fine Arts, Master of Arts, and Master of Fine Arts. Graduate degrees are detailed in the Graduate Catalog.

Bachelor of Arts

A liberal arts degree is offered to students completing the general education requirements, a 14-hour minor in another department (or a 14-hour art history minor), the core classes in art listed below, and 12 elective hours in art approved by the student's adviser. Art education students must complete the additional requirements for a teaching credential.

B.A. Requirements

Fundamentals—Art 120, 121, 122.

Field Core—Art 227, 233, 239, 250, 256, 259, 263, and at least six hours of art history.

Electives in field of student's choice (11 hours required).

Bachelor of Fine Arts

A degree with emphasis on performance is offered to students who apply after successfully completing Art 120, 121, and who qualify with a faculty evaluation of their work. Senior B.F.A. students are required to complete a terminal project which may be retained by the department.

The B.F.A. student must meet the following general education requirements: English, 6 hrs.; P.E., 2 hrs.; health, 2 hrs.; social science, 3 hrs.; biological science, 3 hrs.; physical science, 3 hrs.; History 170; humanities, 6 hrs., including 2 hrs. of literature; and a minor of 14 hrs. in another department (or a 14-hr. art history minor).

An art core requirement of the following classes must be met: Art 120, 121, 122, 227, 233, 239, 250, 256, 259, and 263. Interior design students may substitute Housing and Home Management 221, 380, 381; Clothing and Textiles 260 for 4 of these requirements. Six hours of art history are also required.

Flexibility has been provided for the B.F.A. student to meet his needs and specialties. Between 12 and 23 hours (depending on the field of concentration elected) should be selected.

One of the following should be selected for an area of concentration. The sequence of courses is suggested:

Commercial Art—321, 310, 341, 322, 333 (illustration students should continue with 342, 343; advertising and design students should continue with Commun.

367 and 368), a class in photography, Art 444, 449A,B,C, 595, and 11 hours of electives.

***Interior Design**—314, 312, 415, 310, 417, 418A, 362, 333, 418B, 418C, 595, and 14 hours of electives.

Painting—321, 322, 310, 327, 333, 421, 433, 427, 476, 580, 595, and 16 hours of electives.

Printmaking—321, 322, 350, 310, 352, 450A, 333 or 327, 450B, 450C, 476, 595, and 15 hours of electives.

Sculpture—356, 322, 310, 456A, 456B, 456C, 501, and 23 hours of electives.

Ceramics—359, 310, 459A, 459B, 459C, 501, 595, and 24 hours of electives.

Crafts—359, 366, 310, 463A, 463B, 362, 463C, 595, and 22 hours of electives.

*Note: Suggest interior design students' minor to be in housing and home management or clothing and textiles.

Art Minor

Students electing an art minor (nonteaching) must complete fourteen hours in art with at least four hours of upper division work. Art 120 and 121 must be completed in the lower division.

Art Education

Prospective art teachers are majors in the Art Department under the College of Fine Arts and Communications; but to coordinate with the Teacher Education program, all departments list their departmental offerings with the College of Education. Details for credentials and Art Department requirements are, therefore, listed in the Teacher Education Department.

Students who intend to teach on the secondary level may fill an art major designed for teachers and support this with a teaching minor in another department. A composite teaching major in art is also offered. The three areas from which the dominant and two supporting fields may be chosen are: (1) crafts and sculpture, (2) drawing and painting, and (3) commercial art and interior design. A teaching minor in art is also offered.

The sequence of education courses begins with Tchr. Ed. 301 in the second semester of the sophomore year. For details on these programs and for sequence of courses in education see "Preparation of Secondary School Teachers" in the Teacher Education Section in this catalog.

Art education students may participate in the B.F.A. program, but they should expect the heavier total credit hour load.

University Minor for Art Majors

Art majors are required to take at least fourteen hours in collateral or minor subjects selected from courses approved for this purpose by the department or departments offering these courses and approved by the chairman of the student's major department. Art education students who elect a composite teaching major are not required to have a University minor. However, should the student decide to complete his bachelor's degree before taking out his credentials, the composite teaching major will not meet the University minor requirements.

Art Core Requirements

Lower division requirements for the major in art include Art 120 and 121 followed by 122. These fundamentals are combined with various media for a basic core required of all students (227, 233, 239, 250, 256, 259, and 263). All programs begin with Art 120 and 121 followed by Art 122.

Nonart Major Courses

Nonart majors may take any 100 or 200 number in the Art Department. All 300 numbers must meet prerequisites.

Courses Repeated for Credit

Courses which have A,B,C,D following the number may be repeated for credit. They are designed to offer a block of time for concentrated study toward maturity in one of the graduate art fields: (1) painting and sculpture, (2) design. A course of study outline must be prepared by the graduate student and his faculty adviser and must include enough core breadth.

Courses

101. Introduction to Art. (2:2:0) F.S. (G-HA) Takasaki, Turner
A survey of art appreciation. Introduction to basic understanding in art with emphasis on art processes through lectures, demonstrations, and studio and gallery visits (not for art majors).

108. General Art. (2:2:2) F.S.Su. (G-HA)
Introduction to appreciation and creative expression. Lectures, demonstrations, and exploratory experiences in painting, lettering, crafts, printmaking, and modeling. Offered to meet the needs of students filling general education requirements who wish to participate in art activities (not for art majors).

110. Design in Everyday Life. (2:3:0) F.S. Home Study also. (G-HA)
A study of good taste and sensitivity to design in contemporary life (not for art majors).

120. Basic Design. (3:3:3) F.S.Su. (m) Darais, Wilson
Foundation course in theory and application of design.

121. Basic Drawing. (3:6:0) F.S. (m) Prerequisites: Art 120 (May be taken concurrently). Breinholt, Burnside, Darais, Fletcher, Forster, Johansen, Takasaki
The principles of art as applied to drawing. Work in perspective, representation, and individual interpretation and expression.

122. Basic Figure Drawing. (3:6:0) F.S. (m) Prerequisites: Art 120, 121. Darais, Gunn, Johansen, Magleby
Drawing from the model. Experience with the elements of graphic expression.

226. Art for Elementary Teachers. (3:3:0) F.S.Su. Home Study also. Breinholt, Fletcher, Gunn, Magleby, Weaver, Wilson
Role of art in public schools; basic art education theory, including levels of artistic growth, classroom activities and aesthetic experiences for teacher growth. Art 110 will not be accepted for credit with Art 226.

227. Design in Oil Painting. (2:4:0) F.S.Su. (m) Breinholt, Fletcher, Forster, Magleby, Turner
Oil colors as a design medium. Emphasis on expressive use of oil paints.

233. Design in Water Color Painting. (2:4:0) F.S.Su. (m) Burnside, Turner
Survey and application of various techniques of water color painting.

239. Design in Layout and Lettering. (2:4:0) F.S. Home Study also. (m) Luch
Basic skills in lettering and designing for commercial purposes.

250. Design in Printmaking. (2:4:0) F.S.Su. (m) Andrus, Weaver
Introduction to fine printmaking as a medium of design including the relief, intaglio, planographic, and stencil processes.

256. Design in Sculpture. (2:4:0) F.S.Su. Johansen
Exploratory design experiences in sculptural materials in creating expressive forms through the use of direct working processes.

259. Design in Ceramics. (2:4:0) F.S.Su. (m) Weaver, Wilson
Familiarization with pottery materials and methods emphasizing a design approach. The production of functional and expressive fired clay objects.

263. **Design in Crafts.** (2:4:0) F.S.Su. (m) Johansen, Weaver
Creative design in metal, wood, leather, mosaic, textile, and other media.

306. **Art History and Appreciation.** (3:3:0) F.S. Home Study also. (G-HA m) Gunn, Mathews
A survey of the art of the Western world covering the various periods including the contemporary styles in the 19th and 20th centuries.

307. **Contemporary Art.** (2:2:0) S.Su. Home Study also. (G-HA m) Burnside, Fletcher, Mathews
The rise and progress of contemporary art in Europe and America.

308. **American Art.** (2:2:0) F. (G-HA m) Burnside, Fletcher
A survey of American painting, architecture, and sculpture from the 17th century to the present.

310. **Advanced Design.** (2:4:0) F.S. Prerequisites: Art 120, 121, 122, 227, 233, 239, 250, 256, 259, 263. Darais, Magleby
Art structure as a means for expression of ideas and emotions.

312. **Product Design.** (2:2:2) F.S. Prerequisites: Art 120, 121, 122, 227, 239, 250, 263. Magleby
Planning and making packages, models, or mock-ups. Emphasis on visual appeal.

314. **Interior Design.** (2:2:0) F.S. (m) Taylor
General principles of interior design.

321. **Interpretive Drawing.** (2:4:0) F.S. Prerequisites: Art 120, 121, 122. Darais, Johansen
Expressive use of the elements of visual communication. Emphasis on personal selection and interpretation of motifs.

322. **Advanced Figure Drawing.** (2:4:0) F.S.Su. Prerequisites: Art 120, 121, 122. Andrus, Gunn, Johansen, Magleby
Advanced work in drawing the human figure with emphasis on structure and individuality of expression.

327. **Landscape and Still Life Painting.** (2:4:0) F.S. (m) Prerequisites: Art 120, 121, 122, 227. Magleby, Turner
Oil painting from landscapes and still life objects with emphasis on developing the individual expressive capacity of the student.

333. **Water Color Painting.** (2:4:0) F.S.Su. (m) Prerequisites: Art 121, 122, 233. Forster, Turner
Development of basic skills in water color paintings from landscape and still life objects. Experience in the use of transparent water colors emphasized.

341. **Layout.** (3:3:0) F. (m) Prerequisites: Art 120, 121, 122, 239. Luch
Creation of the idea and organization of visual elements for commercial design.

342. **Illustration.** (2:3:0) S. Prerequisites: Art 120, 121, 122. Gunn
Introduction to editorial and advertising illustration, exploration of tools and media, visualization of the idea, approaches to rendering.

343. **Fashion Illustration.** (2:3:0) F. Prerequisites: Art 120, 121, 122. Gunn
Introduction to fashion illustration. The gesture proportion, and effective linear expression of the fashion figure; approaches to rendering apparel and the development of individual style.

344. **Commercial Art Techniques.** (2:2:2) F. Prerequisite: Art. 239. Luch
A survey of standard and experimental procedures utilized in the production of commercial art.

350. **Printmaking Workshop.** (2:4:0) F.Su. (m) Prerequisites: Art 120, 121, 122, 250. Andrus
Relief and intaglio fine printmaking based on traditional and contemporary concepts, materials, and procedures.

352. **Printmaking Workshop.** (2:4:0) S. (m) Prerequisites: Art 121, 122, 250. Andrus
Lithography and silk screen based on traditional and contemporary concepts, materials, and procedures.

356. **Sculpture.** (2:4:0) F.S.Su. (m) Prerequisites: Art 120, 121, 122, 256. Johansen
Methods of creating expressive sculptural form which emphasize the direct working processes of modeling, buildup and construction.

359. **Ceramics.** (2:4:0) F.S.Su. (m) Weaver, Wilson
Basic methods of creating functional and expressive objects from clay. Forming processes from constructing and throwing through decorating and glazing to the final fired product.

362. **Textile Crafts.** (2:4:0) F.S. (m) Prerequisites: Art 120, 121, 122, 263. Weaver
Silk screen, block printing, stenciling, painting, and dyeing as media for textile design.

366. **Metal Crafts and Jewelry Design.** (2:4:0) F.S.Su. (m) Prerequisites: Art 120, 121, 122, 263 (nonart majors, 263 only). Weaver
Creative design of copper, silver, aluminum, and other media used in etching, enameling, forming and modeling, soldering, silver casting, lapidary, etc.

☐**Communications 367. Portrait Photography.** (2:1:3)

☐**Communications 368. Pictorial Photography.** (2:4:0)

377. **Basic Classroom Procedures.** (3:3:0) F. Prerequisite: Tchr. Ed. 301. Breinholt

403. **Ancient and Primitive Art.** (2:2:0) F. (G-HA m) Mathews
The history of ancient art including Egypt, Mesopotamia, and Greece. Primitive cultures include African Negro, Pacific Islands, American Indian, and Pre-Columbian.

404. **Oriental Art.** (2:2:0) F. (m) Takasaki
History and appreciation of the art of the major periods and dynasties of the Orient from ancient to modern times.

405. **Medieval and Renaissance Art.** (3:3:0) S. (G-HA m) Burnside, Fletcher
The history and appreciation of Medieval and Renaissance painting, sculpture, and architecture.

410A,B,C. **Design Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 310. Darais
Advanced design problems. (May be repeated for credit: B, C.)

415. **Interior Design.** (3:3:0) F. Prerequisite: Art 314. Taylor
A history of interior furnishings. (Continued in Art 417.)

417. **Interior Design.** (3:3:0) S. Prerequisites: Art 314, 415. Taylor
Interior materials.

418A,B,C. **Interior Design Studio.** (3:Arr.:Arr. ea.) F.S.Su. Prerequisite: Art 417. Knell
Specific interior design problems. (May be repeated for credit.)

421A,B,C. **Drawing Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 321 or 322. Johansen
Development of individual expressive strengths. (May be repeated for credit: B, C.)

427A,B,C. Oil Painting Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 327. Turner
Advanced work in painting. (May be repeated for credit: B, C.)

433A,B,C. Watercolor Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 333. Turner
Advanced work in watercolor theory and practice. Opportunities for projects in various aqueous media. (May be repeated for credit: B, C.)

444. Portfolio Preparation. (2:2:2) F.S. Prerequisites: Art 122, 239, 341, 342. Gunn, Luch
An analysis of individual strengths and weaknesses. Specialization opportunities provided in various areas of commercial design and display. Preparation of portfolio emphasized.

449A,B,C. Commercial Art Studio. (3:1:5 ea.) F.S.Su. Prerequisites: Art 341, 342; Commun. 250. Gunn, Luch
An extension of the individual's specific interests and needs as applied to practical problems in the field of commercial art. (May be repeated for credit: B,C.)

450A,B,C. Printmaking Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 350 or 352. Andrus
Advanced printmaking on traditional and contemporary concepts. (May be repeated for credit: B, C.)

456A,B,C. Sculpture Studio. (3:1:5 ea.) F.S. Su. Prerequisite: Art 356. Johansen
Advanced specialization in significant sculptural form. Practical applications considered. (May be repeated for credit: B, C.)

458A,B,C. Sculpture Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 456. Johansen
Advanced specialization in significant sculptural form. Practical application considered. (May be repeated for credit: B, C.)

459A,B,C. Ceramics Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 359. Weaver, Wilson
Advanced and experimental methods of producing ceramic objects. Emphasis is on exploratory research in the fields of clay bodies and glazes. (May be repeated for credit: B, C.)

463A,B,C. Crafts Studio. (3:1:5 ea.) F.S.Su. Prerequisite: Art 263. Weaver
Advanced exploratory problems in design involving craft materials of various kinds. (May be repeated for credit: B, C.)

476A,B,C. Portrait and Figure Painting. (3:Arr.:Arr. ea.) F.S.Su. Prerequisites: Art 120, 121, 122, 227. Andrus
Oil painting from the model with emphasis on design and the development of an expressive style.

479. Secondary Student Teaching. (8:0:0) F.S. Prerequisite: Art 377. Breinholt

498. Readings (Honors). (2:TBA) F.S.Su. Andrus

499. Readings. (2:TBA) F.S.
Selections from the great literature in art.

501. Aesthetics. (2:2:0) F.S. de Jong
Theoretical and practical criteria of aesthetic values.

506. History of Architecture. (2:2:0) F.S. Burnside
A survey of the great monuments in architecture from the Egyptian period down to the present time.

568 A,B,C. Art Education Studio. (3:1:5 ea.) F.S.Su. Breinholt, Gunn, Weaver
Curricula and projects in art education. (May be repeated for credit: B, C.)

580. Mural Design. (2:2:2) F. Prerequisites: Art 310, 321 or 322. Magleby
Historical backgrounds, design and execution of murals.

582. **Mural Painting.** (2:1:3) F.S.Su. Prerequisite: Art 580. Magleby
Historical backgrounds, design, and execution of murals. (May be repeated for credit.)

595. **Seminar.** (1:0:2) F.S.
Student and faculty analysis of curricula relationships, projection of student objectives, contemporary topics and visits to current exhibits.

615. **Period Furnishings and Other Decorative Material for Interior Design.** (2:2:2) F.

617A,B,C,D. **Practical Problems in Interior Design.** (4:4:4 ea.) Prerequisite: Art 615.

621. **Advanced Drawing and Painting.** (2:2:2) F. Andrus

622A,B,C,D. **Advanced Figure Drawing.** (4:4:4 ea.) Prerequisite: Art 621. Andrus

624. **Advanced Landscape Painting.** (2:2:2) F. Turner

625. **Advanced Still Life Painting.** (2:2:2) S. Turner

626A,B,C,D. **Advanced Painting.** (4:4:4 ea.) Prerequisite: Art 621 or 624 or 625 or 674 or 676.

627. **Pictorial Composition.** (2:2:2) F. Darais, Turner

629A,B,C,D. **Advanced Design.** (4:4:4 ea.) Prerequisite: Art 310. Darais

633. **Advanced Water Color Painting.** (2:2:2) F. Turner

635A,B,C,D. **Advanced Water Color.** (4:4:4 ea.) Prerequisite: Art 633. Turner

639. **Advanced Layout.** (2:2:2) F. Gunn

642. **Advanced Illustration.** (2:2:2) S. Gunn

647A,B,C,D. **Advanced Commercial Art.** (4:4:4 ea.) Prerequisite: Art 639. Gunn

650. **Advanced Relief and Intaglio Printmaking.** (2:2:2) F. Andrus

652. **Serigraphy and Color Lithography.** (2:2:2) S. Andrus

653A,B,C,D. **Advanced Printmaking.** (4:4:4 ea.) Prerequisite: Art 650. Andrus

656. **Advanced Sculpture.** (2:2:2) F. Johansen

658A,B,C,D. **Advanced Sculpture.** (4:4:4 ea.) Prerequisite: Art 656. Johansen

664. **Advanced Ceramics.** (2:2:2) F.S. Wilson

665A,B,C,D. **Advanced Ceramics.** (4:4:4 ea.) Prerequisite: Art 664. Wilson

666. **Advanced Metal and Jewelry Design.** (2:2:2) F.S. Weaver

667A,B,C,D. **Advanced Crafts.** (4:4:4 ea.) Prerequisite: Art 666. Weaver

668. **Art Education.** (2:2:0) S. Breinholt, Gunn

671. **Survey of Recent Studies in Art Education.** (2:2:0) Breinholt, Gunn

674. **Advanced Portrait Painting.** (2:2:2) F. Andrus

676A,B,C,D. **Advanced Portrait and Figure Painting.** (4:Arr.:Arr. ea.) Prerequisite: Art 674. Andrus

680. **Advanced Mural Design and Painting.** (2:2:2) F. Darais

682A,B,C,D. **Advanced Mural Design and Painting.** (4:Arr.:Arr. ea.) Prerequisite: Art 580 or 680. Darais

690. **Color.** (2:2:0) F. Andrus

692. **Color.** (2:2:0) S. Prerequisite: Art 690. Andrus

695. **Seminar.** (1:1:0) F.S.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.)

Asian Studies

亞洲研究

Associate Professors: Hyer (coordinator), Palmer.

Assistant Professors: Farnsworth, Hillam, Horiuchi.

Asian Studies

The Asian Studies Program is an interdisciplinary program which provides for two majors or a major and minor combination leading to the B.A. degree.

The program is designed to prepare students for careers and advanced study in the specialized field of the Far East not provided by a major in one department. In the program, students will acquire a working competency in either the Chinese, Japanese, or Korean language, a broad knowledge of the civilizations of the Far East, and a more specialized knowledge in an academic discipline as applied to Asia. The program is intended for those students desiring to make an intensive study of the cultural history, modern development and problems of Asia. It applies the techniques of and acquaints students with the contributions of anthropologists, linguists, historians, political scientists, economists, sociologists, and geographers. The major as outlined proves useful to students contemplating careers in the academic areas, private industry, or government service. The import-export field and international services are particularly interested in persons who have a strong background in Asian studies. Students may enter the program only with the approval of the committee on Asian Studies and shall register each semester thereafter under its direction.

Requirements for a Major

A total of 28 hours (in addition to a regular major and 12 hours of Chinese, Japanese, or Korean language instruction, equivalent to the bachelor's-degree requirement) divided as follows:

1. Core courses dealing directly with Asia (starred in list below) from each of four fields outside the regular major .... 14 hours
2. Elective courses dealing more generally with Asia (any in the list below) outside the regular major including for nonlanguage majors eight hours of Asian language study .... 14 hours

Requirements for a Minor

A total of 14 hours (in addition to a regular major and 12 hours of an Asian language, equivalent to the bachelor's-degree requirement) divided as follows:

1. Core courses .... 8 hours
2. Elective courses (including three hours of language study) .... 6 hours

Art		**Hours**
*404.	Oriental Art History	2
Anthropology		
111.	Cultures of the World	3
241.	The Growth of Culture in the Old World	3
325.	Introduction to Descriptive Linguistics	2

*414.	Peoples of East Asia	3
491.	Readings	1-3

Geography

*470.	Asia	3
490.	Readings in Systematic Geography	1
491.	Readings in Regional Geography	1
*571.	Problems of Asia	2

History

*340.	Asian Civilization	3
*341.	Modern Asia	3
*343.	Formative Period of Chinese Civilization	3
*344.	Modern China	3
*346.	Japan	3
*347.	India	2
498.	Directed Readings	1-2
*640.	The Far East	2
*648.	Culture of Asia	2

Language

Chinese:

101, 102.	First Year Chinese	4 ea.
201.	Intermediate Chinese Reading and Conversation	4
211.	Second Year Conversation	2
301.	Selected Readings	4
311.	Third Year Conversation	2
321.	Advanced Grammar and Composition	3
322.	Third Year Chinese	2
443, 444.	Modern Chinese Literature	3 ea.
490, 491.	Individual Study in Chinese	1-3 ea.

Japanese:

101, 102.	First Year Japanese	4 ea.
201.	Intermediate Reading and Conversation	4
211.	Second Year Conversation	2
301.	Introduction to Japanese Literature	4
311.	Third Year Conversation	2
321.	Advanced Grammar and Composition	3
322.	Japanese Composition and Conversation	3
490, 491.	Individual Study in Japanese	1-3 ea.

Korean:

101, 102.	First Year Korean	4 ea.
201.	Intermediate Korean Reading and Conversation	4
301.	Introduction to Korean Literature	4

Political Science

170.	International Relations	3
*352.	Government and Politics of East Asia	3
*358.	Government and Politics of Southeast Asia	3
370.	Theory of International Politics	3
375.	International Organization	3
498A, B, C.	Directed Readings in Political Science (Honors)	1-2 ea.
572.	Foreign Policy of Soviet Union and Eastern Europe	3
*580.	International Politics of Asia.	3

Religion

453.	World Religions	2
*555.	Comparative World Religions (Asian)	2
*556.	Comparative World Religions (Asian)	2

*559.	History of Christianity in Asia	2
*656.	Seminar in Asian Religions	2

Sociology

595, 596.	Directed Readings	1-3 ea.

Economics

241.	Comparative Economic Systems	3
430.	Economic Development	3
*535.	Economic Problems of Asia	3
630.	Advanced Economic Development	3
693.	Seminar in Comparative Economic Systems	2

English

251.	Fundamentals of Literature	3
275, 276.	Survey of English Literature	5 ea.
277.	Survey of American Literature	4

Special courses offered from time to time during a summer session such as History 552, Indonesian Civilization; Political Science 353, Governments of China; and classes in the political thought of Asia will satisfy requirements for the major.

Courses

501. Intensive Introduction to Asian Studies for Teachers. (3:3:0) Su. (Offered alternate years) (G-SS) Farnsworth, Hillam, Horiuchi, Hyer

Readings, lectures and individual study designed to assist public school teachers to integrate Asian Studies into the curriculum of social studies, world history and geography.

502. Intensive Introduction to Asian Studies for Teachers. (3:3:0) Su. Offered alternate years) (G-SS) Farnsworth, Hillam, Horiuchi, Hyer

Readings, lectures, and individual study designed to assist public school teachers to integrate Asian studies into the curriculum of social studies, world history and geography.

Instructor with students in Asian Studies class

Bacteriology

Professors: R. Sagers (chairman, 110 B), Beck, Donaldson, Larsen.
Associate Professors: Bradshaw, Hoskisson.
Assistant Professors: North, Trent.
Instructor: Chugg.
Special Instructors: Call, LeCheminant, G. Sagers.

The curriculum of the Department of Bacteriology is designed to accomplish the following objectives: (1) train competent bacteriologists and medical technologists, (2) provide a basic background for all students' general education, and (3) serve other departments that request or require specific training in microbiology.

Bacteriology Major

The minimum requirements for a Bachelor of Science degree in the department are completion of the following courses or their equivalents in bacteriology and supporting fields: Bact. 331, 491, 501, 511 and additional upper division courses selected from 401-6, 531-2, 551-2 to bring the total to 20 hours; zoology or botany, 6 hours; Chem. 105, 106, 151, 223, 384, 385; Math. 105 and Physics 100.

The following courses are recommended for students who plan to do postgraduate work in bacteriology: Chem. 105 and 106 (or 111, 112), 223, 351, 352, 353, 354, 581, 582, 583, 584; Math. 105 and 106 (or 111, 112), 213; Physics 201, 202; Bot. 101, 335, 376, 440 or Zool. 105, 261, 263, 376, 417.

Students minoring in bacteriology are encouraged to complete Bact. 321 and 322 (or 331), Bact. 501 and additional hours selected from upper division courses to bring the total to 14 semester hours.

Medical Technology Major

Through a cooperative agreement with the various hospitals, Brigham Young University has made provision for training medical technologists. The program is designed to prepare students for careers in clinical laboratories and medical research laboratories. The curriculum indicated in the following outline consists of a three-year period of residence study at the Brigham Young University campus and one year of practical hospital internship.

During the fourth year (internship) the student will register at the University and pay tuition and fees. After satisfactory completion of the internship, the student is eligible to receive a Bachelor of Science degree. Many students elect to study on campus four years and complete requirements for a Bachelor of Science degree in bacteriology prior to the hospital internship. The student is then not required to register and pay tuition to the University during the internship.

Failure to achieve a cumulative grade-point average of 2.0 by the end of the sophomore year will be considered sufficient reason to disqualify a student from further participation in the medical technology program.

Freshman Year

	F	S
Math. 105*	3	
Chem. 105, 106	4	4
Zool. 105		3
Engl. 111, 112	3	3
Health 130	2	
Undergrad. relig.	2	2
Soc. sci.	3	2
P.E.	½	½
Electives		2
Total Hours	17½	16½

Sophomore Year

	F	S
Chem. 151, 384-5	5	5
Physics 100	3	
Zool. 261, 263		4
Bact. 331		5
Lit.	3	
Undergrad. relig.	2	2
Hum.	3	
P.E.	½	½
Total Hours	16½	16½

*A student requiring Math. 101 prior to 105 should contact his adviser and receive alternate curriculum.

Junior Year

	F	S
Bact. 391		2
Bact. 491	1	1
Bact. 501, 511	5	4
Zool. 276 or Bot. 276		3
Zool. 417	3	
Chem. 223	5	
Hist. 170		3
Undergrad. relig.	2	2
Hum.		2
Total Hours	16	17

Senior Year

	F	S
Bact. 401, 402, 403	15	
Bact. 404, 405, 406		15
Total Hours	15	15

Courses

121. General Bacteriology. (3:2:3) F.S. (G-BS) Recommended for students seeking a liberal education in bacteriology who do not have the prerequisites to take the more advanced courses.

A survey of fundamental biological processes observed in bacteria and other microorganisms; growth, reproduction, genetic changes, and metabolism, together with beneficial and harmful activities related to man and other forms of life.

311. Sanitation and Public Health. (2:2:0) F.S. Home Study also. (G-BS m)

Sanitary and public health practices. For students desiring a basic course in the role of the individual and the community in promoting health and preventing disease.

321. General Microbiology. (3:3:0) F.S. Home Study also. (G-BS m) Prerequisites: any chemistry course and any zoology or botany course.

The microbial world. Recommended for all students seeking a liberal education in bacteriology who have completed the prerequisites.

322. General Microbiology Laboratory. (1:0:3) F.S. (G-BS m) Prerequisite: concurrent or previous registration in Bact. 321.

331. Microbiology. (5:3:6) F.S. (G-BS m) Prerequisite: any organic chemistry course.

Introduction to bacteriology. The first bacteriology course for students majoring or minoring in bacteriology or medical technology and any other students having the prerequisites and desiring a comprehensive course in bacteriology.

☐**Botany 335. Fungi.** (3:1:6)

361. Food Microbiology. (2:1:3) S. (m) Prerequisite: Bact. 121 or equivalent.
Hoskisson

The microbiology of food.

371. **Dairy Microbiology.** (2:1:3) F. (m) Prerequisite: Bact. 121 or equivalent. Hoskisson

The microbiology of dairy products.

381. **Water and Sewage Microbiology.** (2:1:3) S. (m) Prerequisite: Bact. 121 or equivalent. Hoskisson

The microbiology of water purification and sewage disposal.

391. **Clinical Pathology.** (2:1:3) S. (m) Prerequisite: Bact. 331. Call, LeCheminant

Theory and application of diagnostic methods employed in hospital laboratories.

401, 402, 403. **Applied Clinical Diagnosis Laboratory.** (5:2-3:6-10 ea.) F.

Applied clinical work is done in an approved hospital during a year's practical internship. Hospital selected must be accredited by Council of Medical Education of the A.M.A. and its pathologist and radiographic technician recognized by the American Society of Clinical Pathologists. Credit is given on basis of a statement from the approved pathologist that student has satisfactorily completed work.

404, 405, 406. **Applied Clinical Diagnosis Laboratory.** (5:2-3:6-10 ea.) S.

491. **Undergraduate Seminar.** (1:1:0) F.S. (m)

495. **Special Problems.** (1-4:Arr.:Arr.) F.S. (m)

Individual work on research problems based on the previous preparation of the student.

501. **Pathogenic Microbiology.** (5:3:6) F.S. (m) Prerequisite: Bact. 331 or consent of instructor. Larsen

A study of the characteristics of pathogenic bacteria, viruses, rickettsia, yeasts and molds.

511. **Immunology.** (4:2:6) F.S. (m) Prerequisite: Bact. 501 or consent of instructor. North

Theories of immunity; training in serological methods.

521. **Industrial Microbiology.** (2:2:0) F. (m) Prerequisites: Bact. 331 and biochemistry. Larsen

The employment of microorganisms in industrial processes.

522. **Industrial Microbiology Laboratory.** (1:0:3) F. (m) Prerequisite: completion of or concurrent registration in Bact. 521. Larsen

531. **Virology.** (2:2:0) S. (m) Prerequisite: Bact. 501. Trent

Characteristics of viruses and virus diseases.

532. **Virology Laboratory.** (2:0:6) S. (m) Prerequisite: completion of or concurrent registration in Bact. 531. Trent

541. **Cultivation and Nutrition of Bacteria.** (2:0:6) F. (m) Prerequisite: Bact. 331. R. Sagers

A laboratory study of selective enrichment techniques, fundamental nutritional requirements, and growth properties of the major taxonomic groups of bacteria.

551. **Advanced Microbiology.** (3:3:0) S. (m) Prerequisite: Bact. 551. Beck

552. **Advanced Microbiology Laboratory.** (1-2:0:3-6) S. (m) Prerequisite: completion of or concurrent registration in Bact. 551. Beck, Bradshaw

561. **Radioactive Tracer Techniques in Biology.** (2:0:6) F. (m) Prerequisite: consent of instructor. Beck, R. Sagers

581. **History of Bacteriology.** (1:1:0) F. (m) Prerequisite: senior or graduate status. Larsen

611. Advanced Immunology. (2:2:0) S. Prerequisite: Bact. 511. Donaldson

631. Advanced Virology. (2:2:0) Prerequisites: Bact. 531, 532; Chem. 582 or equivalent. North, Trent

Replication and biophysical characteristics of cytocidal and oncogenic animal viruses with emphasis on the molecular basis for the attendant changes in cell metabolism.

632. Cell and Tissue Culture Techniques. (2:0:4) Prerequisites: Bact. 531 and 532; Chemistry 581 and 582 or equivalent. North, Trent

A laboratory course in advanced techniques utilized in cell and tissue culture procedures.

☐**Agronomy 614. Advanced Soil Microbiology.** (3:2:3).

651. Special Topics in Bacterial Metabolism. (2:2:0) F. Prerequisite: Bact. 552. Beck, Bradshaw, R. Sagers

661. Microbial Genetics. (3:3:0) F. Prerequisites: Bact. 331, a course in general genetics, and Chem. 582 or equivalent. Bradshaw

A study of genetic processes in bacteria and viruses, with special emphasis on recombination, transduction, mutation, replication mechanisms, and related topics.

662. Microbial Genetics Laboratory. (1:0:3) F. Prerequisite: completion of or concurrent registration in Bact. 661. Bradshaw

691. Graduate Seminar. (1:1:0) F.S.

695. Research to Furnish Data for Thesis. (1-10: Arr.:Arr.) F.S.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.

795. Doctoral Candidate Research. (Arr.) F.S.

799. Dissertation for the Ph.D. Degree. (Arr.) F.S.

Students in bacteriology lab.

Botany

Professors: Christensen (chairman, 210 B), Harrison, McKnight, Stutz.

Associate Professors: Moore, Murdock, Welsh.

Assistant Professors: Hess, Stocks, Whitton.

Instructors: Allred, Van Cott.

Collaborators: Neil C. Frischknecht, Ralph C. Holmgren, Odell Julander.

The courses offered in the Botany Department provide professional training for rewarding careers in the plant sciences and present an avenue to everyone for enlarging his understanding of life and for appreciating the beauty in the world in which we live.

Career opportunities are available to botanists in governmental services, in industry, in secondary schools, colleges, and universities, and in research institutions. Botanists are employed as teachers, conservationists, range managers, geneticists, plant breeders, plant physiologists, mycologists, plant quarantine inspectors, taxonomists, museum curators, park naturalists, park rangers.

Three professional undergraduate curricula in the department are offered. In addition to the central program in botany, two other major areas of specialization are provided; one for prospective biology teachers and one for range managers. A two-year preforestry program is also available.

Required and Recommended Courses for Botany Majors

Required Courses:

Bot. 101, 110, 225, 321, 331, 335, 376, 440, 450, 490

Math. 105 and 106 or 111

Chem. 105, 106

Students majoring in botany are required also to gain some field experience in botany. This requirement may be satisfied by taking Bot. 455, or by attendance at an approved summer biological station, or by appropriate summer field work.

Recommended Supporting Courses:

Agron. 282; Bact. 321, 322; Chem. 321, 351, 352; Geol. 111, 112; Math. 112; Stat. 221; Zool. 105, 212, 213, 261; Bot. 378.

Suggested Curriculum for Botany Majors for the First Two Years. (Junior and senior year curriculum to be worked out with approval of adviser.)

Freshman Year

Bot. 101	3	Bot. 110	3
Math. 105	3	Math. 106	3
Engl. 111	3	Engl. 112	3
Undergrad. relig.	2	Undergrad. relig.	2
Electives	5	Electives	5
Total Hours	16	Total Hours	16

Sophomore Year

Bot. 225	3	Bot. 321	2
Chem. 105	4	Chem. 106	4
Undergrad. relig.	2	Undergrad. relig.	2
Electives	8	Bact. 321, 322	4
Total Hours	17	Total Hours	17

Major and Minor for Secondary Teachers

Prospective biology teachers should complete either a botany major and a zoology minor or a zoology major and a botany minor. Bot. 377 and 479 are required for certification of all prospective biology teachers.

Teaching Major (28 or 29 hours)

Bot. 101, 110, 205, 321, 331, 376, 440, 450, 490, plus one of the following: Bot. 225, 335, 455.

Required Supporting Courses:

Bact. 321; Math. 105, 106, or 111; Chem. 105, 106.

Recommended Supporting Courses:

Agron. 282; Bot. 225, 335, 378, 455, 460; Geol. 111, 112; Chem. 151 or 351, 354; Stat. 221.

Teaching Minor (20 hours)

Bot. 105, 110, 205, 225, 321, 440, 450.
(Students must have had Zool. 105, otherwise Bot. 101 is required.)

Range Management and Range Conservation

Courses required for the range management and range conservation option:

Bot. 101, 105, 110, 276 or 376, 440, 450.

Agron. 151, 282, 340, and three hours from the following: Agron. 302, 303, 305, 308, 411.

An. Sci. 207, 335, 440.

Agr. Econ. 112.

Chem. 105 and 106.

Bot. 469 (Bot. 161 recommended).

Geol. 101 and 102, or 111.

Math. 101, 105, and 106 or 111; Stat. 221.

Zool. two courses from 105, 230, 347, 357, 451.

Range Management Courses (15 to 17 hours)
Agr. Econ. 350; Bot. 365, 455, 462, 493 or 496.
Four to six hours from the following: Agron. 455; Bot. 466, 480, 515, 561, 750.

Preforestry

Students may prepare themselves for further training in forestry by taking the preforestry curriculum during their first two years of college work. The preforestry program at Brigham Young University is under the supervision of the Department of Botany. During the freshman and sophomore years students in the preforestry program are registered for the basic science courses required for training in forestry and general education courses. Upon completion of this program students may enroll in a professional forestry school for their major work in forestry.

Courses

101. Plant Biology. (3:3:2) F.S.Su. (G-BS m)
The study of life, using plants to illustrate the processes and structure of living organisms.

105. **Plant Kingdom.** (3:3:2) F.S. (G-BS m)
A survey of the plant kingdom, including the morphology of representative species.

110. **Plant Classification.** (3:2:3) Su. (G-BS m) Home Study also.
Harrison, Welsh
General principles of taxonomy and use of manuals with emphasis on classification of temperate flora.

161. **General Forestry.** (3:3:0) F. (Field trip to be arranged.)
General principles of forestry and forest conservation. The relationship of forests to human affairs.

205. **Field Botany.** (2:1:3) F.S.Su. (G-BS m)
A study of the common trees and shrubs and their uses.

225. **General Cytology.** (3:2:3) F. (m) Moore, Whitton
The organization and function of cells.

276. **Heredity.** (3:3:0) F.S. Home Study also. (G-BS m) Prerequisite: Bot. 101 or Zool. 105.
The principles of inheritance. For students not majoring in biological science; majors should take course 376.

321. **Plant Anatomy.** (2:1:3) S. (m) Prerequisite: Bot. 101 or Zool. 105.
Christensen
A study of plant structures.

331. **Morphology of Green Plants.** (5:3:6) S. (m) Prerequisites: Bot. 225 and 321 or consent of instructor.
Basic structures, relationships, and life histories of representatives of the major plant groups, exclusive of the fungi.

335. **Mycology.** (3:1:6) F. (m) Prerequisites: Bot. 101 or Zool. 105, and Bot. 225 or consent of instructor. McKnight
A study of fungi.

365. **Range Forage.** (2:0:6) F. Prerequisite: Bot. 110. Murdock
Characteristics, distribution, and value of the more important forage plants of the western range.

376. **Genetics.** (3:3:0) F.S. (G-BS m) Prerequisite: Bot. 101 or Zool. 105. Stutz
The principles of genetics.

377. **Secondary Teaching Procedures in Biology.** (3:3:1) F.S. Prerequisite: Tchr. Ed. 301. Allred, Stocks
For course description see Tchr. Ed. 377. Required of biology teachers.

378. **Genetics Laboratory.** (1:0:3) F. (m) Prerequisite: completion of or concurrent registration in either Bot. 276, 376, or equivalent. Whitton
Laboratory and field exercises in genetics.

440. **Plant Physiology.** (4:3:3) S. (m) Prerequisites: Bot. 101 and college chemistry. Harrison
Water relations, mineral nutrition, synthesis of foods, digestion, respiration, and growth and reproduction of plants.

450. **Plant Ecology.** (3:2:3) F. (m) (Field trips to be arranged.) (G-BS) Prerequisite: Bot. 101 or Zool. 105. Christensen, Murdock
Relation of plants to their environment, their adaptations to factors of soil and climate, their influences on each other, and their relationships to other organisms.

455. **Field Ecology.** (2:1:Arr.) S.Su. (m) (Includes one field trip of about one week's duration.) Prerequisite: consent of instructor. Christensen, Murdock
Ecological field work in forests and rangelands.

460. **Conservation of Natural Resources.** (2:2:0) F.S.Su. (Field trip to be arranged.) (G-BS m) Home Study also.
Need for and means of providing conservation of renewable natural resources.

462. **Range Management.** (3:2:3) S. (m) Prerequisite: Bot. 450.
Problems associated with the management, grazing, revegetation, and maintenance of rangelands.

466. **Range Revegetation and Improvement.** (3:2:3) F. (m) Prerequisite: Bot. 450. Christensen, Murdock
Artificial and natural revegetation and the use of fencing, watering, and other range facilities.

469. **Forest Management.** (3:3:0) S. (Field trips to be arranged.)
Management of forest resources for multiple use.

479. **Secondary Student Teaching.** (4-8:0:20-40) F.S. Prerequisite: Bot. 377. Allred, Stocks
For course description see Tchr. Ed. 479. Required of biology teachers.

480. **Plant Pathology.** (3:2:3) F. (m) Prerequisite: Bot. 101 or Zool. 105. Hess
Important plant diseases, their identification, causes, and methods of control.

490. **Seminar.** (1:1:0) F. (m)
Presentation and discussion of selected topics.

493. **Seminar in Plant Ecology and Range Management.** (1:1:0) S.
Presentation and discussion of current research in range ecology and range management.

496. **Special Problems in Range Management.** (1-3:0:3-9) F.S.

498. **Special Problems.** (1-3:0:3-9) F.S.

501. **Histological Technique.** (2:0:6) F. (Offered 1967-68 and alternate years) Prerequisite: Bot. 101 or Zool. 105.
Techniques of preparing plant tissues for microscopic examination.

510. **Advanced Taxonomy.** (3:2:3) (One three-day field trip to be arranged.) S.Su. Prerequisites: Bot. 110 and Bot. 276 or consent of instructor. Welsh

515. **Agrostology: Taxonomy and Ecology of Grasses.** (2:1:5) F. (Offered 1966-67 and alternate years.) Prerequisite: Bot. 110. Harrison
Classification and ecology of grasses. Important forage species are emphasized.

525. **Advanced Cytology.** (3:2:3) F. (Offered 1966-67 and alternate years) Prerequisite: Bot. 101 or Zool. 105. Moore, Whitton

535. **Advanced Mycology.** (4:2:6) S.Su. (Offered 1967-68 and alternate years) Prerequisite: Bot. 335 or equivalent. McKnight
A detailed study of taxonomy and morphology of special groups.

539. **Paleobotany.** (3:2:3) S. (Offered 1967-68 and alternate years) Prerequisites: Bot. 101 or 105, and Geol. 112.

550. **Plant Geography.** (3:2:3) F. (Offered 1967-68 and alternate years) Welsh
The distribution of plant species and communities in the light of present and past climates.

557. **Experimental Ecology.** (2:0:6) S. (Offered 1966-67 and alternate years) Murdock
Investigations on the phenology of selected species.

561. **Watershed Management.** (3:2:3) S. (Offered 1966-67 and alternate years) **Murdock**

591. Seminar. (1:1:0) F.
Presentation and discussion of current topics in botany.

598. Special Problems. (1-3:0:3-9) F.S.

620. Cell Biology. (3:2:3) S. (Offered 1967-68 and alternate years.) Hess

630. Angiosperm Morphology. (4:3:3) F. (Offered 1966-67 and alternate years) Prerequisite: familiarity with taxonomy, anatomy, and physiology or biochemistry. Moore

634. Morphogenesis. (3:2:3) F. (Offered 1966-67 and alternate years) Prerequisite: familiarity with taxonomy, anatomy, and physiology or biochemistry. Moore
The development of form in organisms, with emphasis on plants.

638. Advanced Mycology II. (2:1:3) F.Su. (Offered 1966-67 and alternate years) Prerequisite: a laboratory course in bacteriology, botany, or zoology. McKnight
Advanced studies of fungi with emphasis on genetics.

641. Physiology of Fungi and Algae. (4:3:3) S. (Offered 1966-67 and alternate years) Prerequisites: Bot. 335, 440. Stocks

655. Field Ecology. (2:1:Arr.) S.Su. (Extended field trip.) Prerequisite: consent of instructor. Christensen, Murdock
Ecological field work in forests and rangelands.

676. Cytogenetics. (3:2:3) F. (Offered 1966-67 and alternate years) Prerequisites: genetics and cytology. Stutz

678. Organic Evolution. (3:3:0) S. Prerequisite: genetics or consent of instructor. Stutz

680. Advanced Plant Pathology. (3:2:3) S. (Offered 1966-67 and alternate years) Prerequisite: Bot. 480. Hess
A detailed study of plant diseases and their causes, with emphasis on viruses, fungal pathogens, or nematodes.

691. Graduate Seminar. (1:1:0) S. Staff

697, 698. Special Problems. (1-3:0:3-9 ea.) F.S.Su. Staff

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

740. Advanced Plant Physiology I. (3:2:3) S. (Offered 1967-68 and alternate years) Prerequisite: Bot. 440. Harrison, Moore, Stocks

741. Advanced Plant Physiology II. (3-4:2-3:3) F. (Offered 1966-67 and alternate years) Prerequisite: Bot. 440. Harrison, Moore, Stocks

742. Plant Nutrition and Growth. (3:2:3) F. (Offered 1966-67 and alternate years) Prerequisite: Bot. 440. Harrison

750. Grassland and Desert Ecology. (3:3:0) F. (Offered 1966-67 and alternate years) Prerequisite: consent of instructor. Christensen, Murdock

752. Forest Ecology. (3:3:0) F. (Offered 1967-68 and alternate years) Prerequisite: consent of instructor. Christensen, Murdock

760. Conservation of Natural Resources. (3:2:3) F. (Offered 1966-67 and alternate years) Prerequisite: consent of instructor. Christensen, Murdock, Moore

776. Population Genetics. (3:3:0) S. (Offered 1967-68 and alternate years) Prerequisite: genetics. Stutz

795. Research for Doctoral Degree. (2-4:0:6-12) F.S.Su. Staff

799. Doctoral Dissertation. (Arr.) F.S.Su. Staff

Business Administration

Professors:	Christensen, Dyer, Moffitt, Oaks, Orton, Smith, W. J. Taylor.
Associate Professors:	Daines (director, 158 JKB), Daniels, Done, Doxey, D. Taylor, Wirthlin.
Assistant Professors:	Call, Eagar, Faerber, Rickenbach.

The Master of Business Administration Program awards an MBA degree at the successful completion of a two-year graduate course of study. During this period a student will have earned 64 semester hours of graduate credit. The summer months are to be used at the discretion of the candidate, although work in industry is encouraged.

Training knowledgeable generalists in the field of business administration has been and will continue to be the prime objective of the program. The curriculum attempts to fulfill this major task by utilizing the following basic stems of training: (1) administration, (2) environment, (3) operations, (4) quantitative-analysis, and (5) communications.

The administrative stem embraces principles of human behavior, group dynamics, human relations theory, and business policy. Operations involves production, marketing, and finance. In the quantitative stem a candidate receives an extensive and intensive exposure to mathematics, accounting, statistics, electronic computer programming, and operations research.

In the environmental stem one is involved with micro and macro economics, business ethics, government and business, and international economics. Finally, in the communications stem a candidate considers and uses the written word in case analysis and the preparation of a major research document.

This program is demanding in terms of time and intellectual activity. The rewards are at least three: (1) A candidate is acquainted with the vocabulary of business administration; (2) he is provided with analytical tools such as mathematics, statistics, economic theory, and financial analysis; (3) he is trained to solve problems in the face of uncertainty. This last-mentioned reward is undoubtedly of greatest importance. If a candidate devoted an infinite number of years in academic preparation, much knowledge still would evade him. Consequently, it is our belief that a prospective business administrator should be skilled in the fine art of decision making for both present and future purposes.

The following courses are of direct concern in the MBA Program: Business Management 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 624, 626, 651, 653, 655, 657, 659, 661, 663, 665, 667, 669, 671, 673, 675, 677. For a detailed description of these courses see the Department of Business Management.

Business Education

Professor:	D. Peterson.
Associate Professors:	Bell, Croft, Polson.
Assistant Professors:	Waters (chairman, 351 JKB), Taylor.
Instructors:	Ashby, DeMille, Dunham, Hartman, Perry, B. Petersen, Smith, Tall, Tingey, Warner.

The Business Education Department provides, within the framework of the College of Business, the preparation needed by young men and women for responsible positions in business and professional business teaching. The four-year programs described below include basic preparation in general education and the college "core" of business fundamentals. A maximum of five hours of "D" credit in required business education courses (or approved substitutes) will be accepted toward satisfying the requirements of any of the majors in this department.

Division of Business Fundamentals

As indicated in the College of Business Section, all students desiring to major in the Business Education Department will register in the Division of Business Fundamentals until they have completed the College of Business lower-division core course requirements applicable to their major and have completed at least 62 semester hours of approved university credit. Core courses as they apply to each of the undergraduate majors in this department are marked with an asterisk on the following page.

Upon completion of these requirements, students who have earned a 2.25 grade-point average in the above-mentioned core courses will be permitted to transfer to the major in which they intend to specialize and graduate.

Office Administration

This major is intended for students interested in the fields of administrative services, office supervision and personnel management.

Preparation is provided for positions in middle management in the expanding profession of office administration. Training in organization, data processing and analysis, systems and procedures analysis, work accomplishment, communications, and supervision of personnel is emphasized. On-the-job training, coupled with class work, provides a well-rounded program designed to meet employment requirements.

Executive Assistant

This major is structured to prepare students to assume positions of responsibility in business. The program provides a broad background in general education, business fundamentals, and secretarial experience. To work cooperatively and understandingly with the business executive is a basic tenet in the preparation of young men and women desiring to become executive assistants.

Business Teacher

The College of Business cooperates with the College of Education in the preparation of qualified business teachers. The business teacher program is designed to include participation by the College of Business faculty in the professional preparation of the business teacher. Majors are recommended for graduation upon the successful completion of (a) the prescribed program of preparation in the Department of Business Education for prospective business teachers, (b) one of three approved teaching minors in the College of Business, and (c) the professional requirements for certification to teach in the public secondary schools in states where four-year degrees are required

Graduate Business Teacher Education

A complete program of graduate courses in business teacher education is provide for teachers desiring a master's degree, or for experienced teachers desiring to fulfill state recertification requirements. Consult the graduate catalog for further details.

Business Technology

(Two-year program)

See the College of Industrial and Technical Education Section of this catalog.

Office Administration

I. College of Business Core Requirements:

	Hours
Math. 108 or equivalent*	3
Acctg. 201 and 202*	6
Acctg. 232*	3
Acctg. 342	3
Bus. Mgt. 347	3
Bus. Mgt. 348 or Econ. 453	3
Econ. 111 and 112*	6
Econ. 311, 312, or 274	3
Stat. 221*	3

II. Office Administration Requirements:

Bus. Ed. 305	3
Bus. Ed. 320	3
Bus. Ed. 370	3
Bus. Ed. 480	2
Bus. Ed. 485 and 486	1, 1

Eleven additional hours to be selected from the following in consultation with the supervisor:

Bus. Ed. 203	2
Bus. Ed. 206	2
Bus. Ed. 220	3
Bus. Ed. 470*	2-4
Acctg. 301	3
Acctg. 302	3
Acctg. 356	3
Acctg. 555	3
Bus. Mgt. 420	3

* Approval of department chairman required.

Executive Assistant

I. College of Business Core Requirements:

Math. 108 or equivalent*	3
Acctg. 201 and 202*	6
Acctg. 342	3
Bus. Mgt. 347	3
Bus. Mgt. 348 or Econ. 453	3
Econ. 111 and 112*	6
Econ. 311, 312, or 274	3
Stat. 221*	3

II. Executive Assistant Requirements:

Bus. Ed. 203	2
Bus. Ed. 204	2
Bus. Ed. 206	2
Bus. Ed. 211	4
Bus. Ed. 220	3
Bus. Ed. 305	3
Bus. Ed. 320	3
Bus. Ed. 370	3
Bus. Ed. 411	4
Bus. Ed. 475	3
Bus. Ed. 485 or 486	1
Bus. Mgt. 480 or 481	1

The following course may be used as an elective or substitute only with approval of the department chairman.

Bus. Ed. 470	2-4

Business Teacher

I. College of Business Core Requirements:

To qualify for a teaching major, students in the business teaching program must complete Acctg. 201, 202, and Econ. 111.

II. Professional Educational Requirements:

Bus. Ed. 377	3
Bus. Ed. 479	8
Other professional education courses	12

(See "Preparation of Secondary School Teachers" in the Teacher Education Section for other required professional courses leading to secondary certification. Certification requirements must be completed to be recommended for graduation.)

III. Business Teacher Requirements:

Bus. Ed. 113 or 411	4
Bus. Ed. 203	2
Bus. Ed. 204	2
Bus. Ed. 206	2
Bus. Ed. 211	4
Bus. Ed. 220	3
Bus. Ed. 300	2
Bus. Ed. 305	3
Bus. Ed. 320	3
Bus. Ed. 370	3
Bus. Ed. 475	3
Bus. Ed. 485 or 486	1
Electives selected from the College of Business exclusive of the teaching major	3

Minors

Business teacher majors may minor in accounting, economics, or general business. See the Teacher Education Section of this catalog for details.

The Business Education Department also offers two nonteaching minors—one in the office administration program and one in the executive assistant program.

The office administration minor requires the completion of 14 hours of credit, including Bus. Ed. 206, 220, 305, 320, and 370.

An executive assistant minor requires the completion of 14 hours of credit, including Bus. Ed. 113, 203, 206, 220, and 370.

Courses

101. Beginning Typewriting. (2:3:2) F.S.Su.
Mastery of the keyboard and development of basic skills. Students with high school credit in typewriting should not register for this course.

111. Elementary Shorthand. (4:5:1) F.S.Su. Prerequisite: Bus. Ed. 101 or equivalent.
Fundamentals of shorthand theory with emphasis on fluency in reading and writing shorthand. Students with previous courses in Gregg shorthand should not register for this course.

112. Intermediate Shorthand. (4:5:1) F.S.Su. Prerequisite: Bus. Ed. 111 or equivalent.
Development of shorthand writing and control beginning with 60 words per minute to develop a minimum rate of 80 to 100 words per minute for three minutes on unfamiliar material.

113. Intermediate Shorthand. (4:5:1) F.S.Su. Prerequisite: Bus. Ed. 112 or equivalent.
Emphasis on accelerated shorthand writing and rapid transcription of letters. Enrolling students should be able to take dictation at a minimum of 80 words per minute and typewrite at 50 words per minute.

203. Speedbuilding in Production Typewriting. (2:3:2) F.S. Su. (m) Prerequisite: Bus. Ed. 101 or equivalent.
Intensive drills with emphasis on measurement of speed and control in the production of manuscripts, outlines, minutes, tabulations, letter writing, rough drafts, and legal instruments.

204. **Advanced Production Techniques in Typewriting.** (2:3:2) F.S.Su. Prerequisite: Bus. Ed. 203 or equivalent.
Application of advanced production techniques to practical business problems including statistical reports, office projects, editing, and composition.

206. **Calculating and Posting Machines.** (2:3:2) F.S.Su. (m)
Instruction and practice in the operation of adding machines, key-driven calculators, rotary calculators, printing calculators, and posting machines for solving practical business problems.

211. **Transcription.** (4:5:1) F.S.Su. Prerequisite: Bus. Ed. 220 and 113 or equivalent.
Emphasis on accurate and rapid shorthand transcription utilizing a variety of written communication skills.

220. **Business Communication.** (3:3:0) F.S.Su. Home Study also. (m) Prerequisites: Engl. 111, 112.
Current means of communication; experience in the composition of business correspondence.

275. **Stenographic Procedures.** (4:3:3) F.S.Su.
A comprehensive review of stenographic responsibilities and laboratory experience.

300. **Fundamentals of Business Education.** (2:2:0) F.S.Su.
Designed to give an understanding of the fundamentals of business education.

☐**Accounting 301. Intermediate Accounting.** (3:3:0)

☐**Accounting 302. Intermediate Accounting.** (3:3:0)

305. **Principles and Methods for Analyzing Office Operations.** (3:3:0) F.S. Home Study also. (m)
An introduction to administrative services, management skills and office supervision. Areas of concentration include organization practices, data processing, systems and procedures, quantity and quality control, work simplification, job analysis and motivation.

320. **Report and Business Writing.** (3:3:0) F.S.Su. (m)
Intensive experience in communicating business analyses and results of fact-finding procedures.

☐**Accounting 356. Accounting Information Systems.** (3:3:0)

370. **Records Control and Office Machines. (3:3:3) F.S.Su. (m)**
Fundamentals of filing, machine transcription, duplicating machines, and other office equipment, supplies, and procedures.

377. **Secondary Teaching Procedures.** (3:3:1) F.S. Prerequisites: Bus. Ed. 300 and Tchr. Ed. 301.

411. **Expert Shorthand.** (4:5:1) S. Prerequisite: Bus. Ed. 211.
Expert shorthand speed course for students writing above 120 words per minute in making reports of committee meetings, board of directors' meetings or conferences. Includes specialized vocabulary, testimony dictation and Congressional Record material.

☐**Business Management 420. Organizational Behavior and Administration.** (3:3:0)

470. **Cooperative Business Experience Internship.** (2-4:0:10-20) F.S.Su.
The student is placed in office situations at the prevailing rate of pay enabling him to enrich classroom theory with practical application. Arrangements for this internship (available on block and semester plan) must be made at least one semester in advance with the departmental supervisor of office administration.

475. **Procedures for Executive Assistants.** (3:3:2) F.S.Su. Prerequisites: Bus. Ed. 204, 220, 211, and 370.

479. **Secondary Student Teaching.** (8:0:40) F.S. Prerequisite: Bus. Ed. 377
For course description and fee see Tchr. Ed. 479.

480. **Case Studies in Office Management.** (2:2:1) S.
Extensive use of cases in office management. Student analysis, group discussions, and written reports form the principal basis for conduct of the course.

☐**Business Management 480, 481. Executive Lectures.** (1:1:0)

485, 486. **Lectures on Office Administration.** (1:1:0 ea.) F.
Each offered alternate years.

☐**Accounting 555. Data Processing Systems.** (3:3:0)

615. **Methods of Instruction in Business Education: Typewriting and Shorthand.** (3:3:0) F.Su.
A critical evaluation of classroom methods, psychology of learning, and findings of research pertaining to improvement of instruction in typewriting, shorthand, and related subjects.

620. **Methods of Instruction in Business Education: Bookkeeping and Economic Education.** (3:3:0) S.Su.
An analysis of course content, classroom methods, and teaching materials pertaining to improvement of instruction in bookkeeping and economic education.

625. **Tests and Measurements in Business Education.** (3:3:0) S.Su. Prerequisite: elementary statistics.
A survey of tests and measurements used in business education and an analysis of their uses and methods of construction.

630. **Current Developments Influencing the Curriculum and Content of Business Education.** (2:2:0) S.Su.
A study of recent technological developments, such as automation in business, and an analysis of the content, materials, and procedures of business education.

635. **Analysis of Recent Research in Business Education.** (3:3:0) F.Su.
Review and analysis of recent research in business education, and evaluation of its implications for improved classroom instruction.

640. **Trends of Thought in Business Education.** (2:2:0) F.Su.
Fundamental ideas that have shaped the business curriculum in the United States, and basic issues that have affected purposes, trends, and control of business education in public and private institutions.

665. **Practicum in Business Education.** (3:3:0) F.Su.
Planning and development of research projects in the field of business education. Experienced teachers may use actual school problems and projects.

675, 676. **Business Education Workshop.** (2:2:0 ea.) Su. (Each offered alternate years.)
A series of clinics in selected business subjects.

690A,B,C,D. **Seminar in Business Education.** (1-2:1-2:0 ea.) S.Su.
An intensive clinic emphasizing teaching methodology in one or more selected topics in business education.

692. **Field Project.** (1-4:Arr.:Arr.) F.S.Su.

694. **Independent Readings.** (1-2:1-2:0) F.S.Su.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

Business Management

Professors:	Boyle (emeritus), E. Christensen, Oaks, W. Taylor.
Associate Professors:	Done, Sessions*.
Assistant Professors:	Eagar (chairman, 395 JKB), Call, Daines, Faerber.
Instructors:	Barnes, C. Christensen, Covey, Cox, Lambert*.

The primary objective of this department is to prepare students for professional careers in business management. The courses of study and methods of instruction are designed to develop personal qualities in each student which will enable him to realize his full potentialities as an effective administrator. Stress is placed on the development of such qualities as the art of decision making, facility in the use of analytical tools and techniques, and the ability to communicate effectively.

Students planning to major in this department should complete, in the time sequence indicated, the following general education, college, and departmental core requirements. After completing these general education and core requirements, a student must elect any one of the different concentrations presented in detail below and complete the requirements listed.

An automatic composite minor in accounting and economics will have been earned by those students majoring in the department at the successful completion of the college and departmental core requirements.

All students desiring to major in business management will register in the Division of Business Fundamentals until they have completed the College of Business lower-division core course requirements and have completed at least 62 semester hours of approved university credit. Core courses are as follows:

Econ. 111, 112
Math. 108 (or equivalent)
Stat. 221
Acctg. 201, 202, 232

Upon completion of these requirements, students who have earned a 2.25 grade-point average in the above-mentioned core courses will be permitted to register in the Department of Business Management.

A maximum of six hours of "D" credit in College of Business courses will be allowed for graduation: three hours in the college and departmental core requirements and three hours in the area of concentration.

For details concerning the program of graduate study leading to the Master of Business Administration degree, students should consult the "Graduate School Catalog."

General Education

(Freshman through senior years)

See the Student Academic Services Section of this catalog for courses needed to satisfy the general education requirements of the University. A detailed discussion of courses which can be taken in each required area is listed therein.

COLLEGE AND DEPARTMENTAL CORE

Freshman and Sophomore Years

	Hours
Math. 108	3
Acctg. 232 or Math. 112	3-5
Acctg. 201, 202	6
Econ. 111, 112	6
Stat. 221	3

Junior and Senior Years

	Hours
Acctg. 342	3
Econ. 311 or 312	3
Bus. Mgt. 340	3
Bus. Mgt. 347	3
Bus. Mgt. 348	3
Bus. Mgt. 420	3
Bus. Mgt. 589	3

GENERAL BUSINESS CONCENTRATION

The general business concentration is designed to give students an opportunity to take additional course work in each of the major functional areas of business, rather than to specialize in some particular field. Emphasis is placed on obtaining a broad background in management training rather than specializing in a given area of management.

Students electing this concentration are required to take the following courses:

	Hours
Bus. Mgt. 552	3
Bus. Mgt. 561	3
Bus. Mgt. 579	3
Electives	6

Electives may be selected from any 400 or 500 level business management courses (Business Management 480 and 481 excluded).

FINANCE CONCENTRATION

The course work offered in this area is designed, first, to familiarize business students with the elements of financial planning and, second, to provide specialized work for those who seek positions of management and executive responsibility in financial institutions or the financial departments of business firms. The requirements are flexible enough to allow some specialization toward commercial banking, investment banking, business finance, insurance, real estate, investment management, or financial counseling.

Students electing this concentration are required to take the following courses:

	Hours
Bus. Mgt. 451	3
Bus. Mgt. 552	3
Bus. Mgt. 571	3
Electives	6

Electives may be selected from any 400 or 500 level business management courses (Business Management 480 and 481 excluded).

MARKETING CONCENTRATION

The marketing concentration is designed to prepare students for positions of management and executive responsibility in the fields of industrial marketing, retailing, wholesaling, advertising, sales management, and market research.

Students electing this concentration are required to take the following courses:

	Hours
Bus. Mgt. 455	3
Bus. Mgt. 558	3
Bus. Mgt. 579	3
Electives	6

Electives may be selected from any 400 or 500 level business management courses (Business Management 480 and 481 excluded).

INDUSTRIAL MANAGEMENT CONCENTRATION

The industrial management concentration provides training for positions in industrial engineering, production control, purchasing, industrial relations, and the operating departments of industrial enterprises. In addition, it facilitates entry into executive trainee programs, the active management of small business, or the continuation of training in a graduate school of business.

Students electing this concentration are required to take the following courses:

	Hours
Bus. Mgt. 561	3
Bus. Mgt. 562	3
Bus. Mgt. 563	3
Stat. 432	3
Electives	3

Electives may be selected from any 400 or 500 level business management courses (Business Management 480 and 481 excluded).

INDUSTRIAL RELATIONS AND PERSONNEL MANAGEMENT CONCENTRATION

The personnel management concentration is designed to prepare students for positions in the personnel and employee relations areas for marketing, financial, and manufacturing institutions in business.

Students electing this concentration are required to take the following courses:

	Hours
Bus. Mgt. 521	3
Bus. Mgt. 569	3
Econ. 461	3
Electives	6

Electives may be selected from any 400 or 500 level business management courses (Business Management 480 and 481 excluded).

MINOR IN BUSINESS MANAGEMENT

Students minoring in the Department of Business Management should take the following courses:

Acctg. 201	3 credit hours
Three classes from your elected concentration in the department	9 credit hours
One additional class from another business management concentration (340, 347, 348, 420 & 589)	3 credit hours
TOTAL	15 credit hours

It is strongly recommended that students minoring in business management take Econ. 111 as a part of their general education requirements.

CONCENTRATIONS FOR MINORS IN BUSINESS MANAGEMENT.

Marketing - 347 (3 credit hours) plus 2 classes (6 credit hours) from 455, 456, 457, 555, 556, 557, 558.

Finance - 348 (3 credit hours) plus 2 classes (6 credit hours) from 450, 451, 452, 552, 565, 567, 571, 574, and Econ. 453.

Management - 340 and 420 (6 credit hours) plus any one other (3 credit hours) business management class.

Bus. Mgt. 205, 480, and 481 are not to be counted toward the minor requirements in this department. However, they are recommended as worthwhile courses for all interested business students.

Courses

205. **Personal Finance.** (2:2:0) F.S. Home Study also. (m) Pearce

A practical course in money management with particular reference to utilization of savings.

303. **Managerial Control.** (3:3:0) S. (m) Prerequisites: Acctg. 201, 202, and Stat. 221 or consent of instructor.

Emphasizes the understanding and use of accounting and other quantitative data for decision-making purposes.

340. **Industrial Organization and Management.** (3:3:0) F.S. (m) Barnes, Christensen

Introduction to the production function of business. Plant location and layout, machinery and equipment utilization, employee-employer relations, and industrial control.

347. **Marketing Management.** (3:3:0) F.S. Home Study also. (m) Barnes, Cox, Done, Taylor

Analysis of problems and concepts concerned with the distribution of goods from producer to consumer. Includes treatment of product planning, pricing, channels of distribution, and promotion.

348. **Financial Management.** (3:3:0) F.S. (m) Prerequisites: Acctg. 201, 202, and Stat. 221 or consent of instructor. Call, Christensen, Cox

Introduction to the elements of financial management from the viewpoint of the business manager, emphasizing profitability, liquidity, and long-range financial planning.

420. **Organizational Behavior and Administration.** (3:3:0) F.S. (m) Christensen, Covey, Eagar

Analysis of case studies and research findings to develop the skills necessary to understand and take action on human problems in business organizations.

450. **General Insurance.** (3:3:0) F. (m)

Life, health, accident, fire, property, and liability insurance and principles of risk-bearing as they apply to each classification of the insurance field.

451. **Investments.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 348 or equivalent. Call, Pearce

Survey of the operation of the security markets with development of one's ability to analyze corporate and governmental securities for investment purposes. Introduction to portfolio selection.

452. **Commercial Bank Management.** (3:3:0) S. (m) Prerequisite: Bus. Mgt. 348 or consent of instructor. Call

Principal problems of commercial bank management considered from the point of view of bank management. Discussions involve management of assets, credit analysis, investment policies, and profitability.

455. **Promotional Strategy.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 347 or equivalent. Barnes, Cox

An overview of the selling and promotional media available to management. An introduction to the characteristics and use of personal selling, advertising, publicity, and other promotional tools.

456. **Retailing.** (3:3:0) F. Home Study also. (m) Prerequisite: Bus. Mgt. 347 or equivalent. Done

A survey of retail store operation which considers executive control, profit planning, merchandising, store location, layout, organization, policies, system, and coordination of store activities.

457. **Industrial Marketing.** (3:3:0) F. (m) Prerequisite: Bus. Mgt. 347 or equivalent. Done, Sessions

Principles, practices, and policies of business concerns engaged in movement of goods from manufacturer to retailer and from manufacturer to industrial user.

459. Transportation Management. (3:3:0) F. (m) Prerequisites: Bus. Mgt. 340, 347, or consent of instructor.

An examination of current problems of management in the transportation industries through discussion of cases and readings.

480, 481. Executive Lectures. (1:1:0 ea.) S.

Top executives from throughout the nation visit the campus and meet students in a series of lectures dealing with subjects significant to executive leadership.

521. Advanced Organizational Behavior and Administration. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 420 or consent of instructor. Christensen, Sessions

This course examines work groups in business situations. Cases and a report on a work group are used to develop administrative skills in applying general principles.

550. Management of Small Businesses. (3:3:0) F. Prerequisites: Bus. Mgt. 340, 347, 348. Cox

Management problems relating especially to small business including strategy of size, variations in management approach, marketing, manufacturing, finance and product development.

552. Advanced Financial Management. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 348 or consent of instructor. Call, Cox, Faerber

Analytical approach to financial concepts such as capital budgeting and present value, valuation, reorganization, and cash management as well as important current financial problems.

555. Problems in Advertising. (3:3:0) S. (m) Prerequisite: Bus. Mgt. 455 or consent of instructor. Barnes, Done

Problems in the use of advertising as part of management's overall marketing strategy. Stresses planning, coordination, control, and evaluation of effectiveness.

556. Problems in Retail Store Management. (3:3:0) S. Prerequisite: Bus. Mgt. 456 or consent of instructor. Done, Sessions

Problems involved in policy formulation and implementation and in the coordination of store activities through the use of controls and standards.

557. Problems in Sales Management. (3:3:0) F. (m) Prerequisite: Bus. Mgt. 347 or consent of instructor. Cox, Done

Problems in sales methods, sales organization, management of sales force (selection, training, compensation, and supervision), and sales planning and control.

558. Marketing Research. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 347 or consent of instructor. Barnes

Exploration of uses, methods, and techniques of marketing research. A major research project is required.

561. Analytical Techniques in Industrial Management. (3:3:0) F. Prerequisite: Acctg. 232. Faerber

A study of the optimum allocation of men, machines, and materials in a manufacturing complex.

562. Analysis of Systems. (3:3:0) F. Prerequisites: Acctg. 232 and Bus. Mgt. 340. Faerber

A systems approach to analyzing the problems of planning, controlling and improving sequences of operations. Course includes critical path scheduling, methods study and time standards.

563. Advanced Industrial Management. (3:3:0) S. Prerequisites: Bus. Mgt. 561 and 562. Faerber

Cases, readings, research, and reports on current industrial practices and problems.

565. Life Insurance. (2:2:0) S. (m)
Advanced study of the nature and functions of life insurance and its application to personal and business needs.

566. Property and Casualty Insurance. (2:2:0) S. (m) Prerequisite: Bus. Mgt. 450 or consent of instructor.
Advanced study of the functions of fire and marine insurance, casualty insurance, and corporate building insurance.

567. Real Estate Administration. (3:3:0) S. (m) Rickenbach
Economics of real estate valuation investment, finance, and the role of government of urban property.

569. Personnel Management. (3:3:0) F.S. (m) Prerequisites: Econ. 311 and Bus. Mgt. 420, or consent of instructor.
Management of the personnel function: job evaluation, organization planning, employee selection, training, compensation, morale, labor relations, and management development. Method case analysis and research projects.

571. Management of Financial Institutions. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 348. Call
Consideration of management problems of nation's major financial institutions. Emphasis will be upon asset management, loan management, and the role of the institution as financial intermediaries.

574. Investment Management. (3:3:0) S. (m) Prerequisite: Bus. Mgt. 451.
Theory of investment management and its application in formulation of investment policies for different types of investors.

575. Advanced Production Methods. (2:2:0) S. (m) Prerequisite: Bus. Mgt. 561.
Advanced methods work, automation, and the application of data processing to industrial operations.

577. The Social and Cultural Environment of Business Enterprise. (3:3:0) F. (m) Prerequisite: senior standing. Eagar, Faerber
The influence of historical, cultural, psychological and social forces on business behavior.

579. Advanced Marketing Management. (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 347 or consent of instructor.
Analysis of problems in marketing management with particular emphasis on integrating the various functional areas.

585. Industry Analysis. (3:3:0) F. (m) Prerequisite: Bus. Mgt. 340 or consent of instructor.
Production characteristics of major industries. Large business units are studied in terms of sources of raw materials, production techniques, financial structure, degree of integration, stage of maturity, character of mechanization, government regulation, and possible future developments.

589. Business Policy. (3:3:0) F.S. (m) Prerequisite: senior standing in the department. Oaks
Cases involving determination of long range objectives in the business firm and the development of sound and consistent policies for achieving these objectives.

591. Research and Diagnosis of Business Problems. (1-2:Arr.:Arr.) F.S. Prerequisite: completion of or concurrent registration in Bus. Mgt. 589.

602. Introductory Quantitative Analysis. (3:3:0) F.
Techniques of mathematics with special emphasis on applications to business situations.

604. Management Control I. (3:3:0) F.
Accounting as a tool for management; coordination of departmental operations; and control of assets.

606. Interpersonal Competence and Organizational Effectiveness. (3:3:0) F.
A training laboratory experience devoted to the stimulation and support of administrative learning and change.

608. Management Computer Concepts. (2:3:0) F.
The development of electronic computer concepts and programming with a focus on the role of a computer in a business firm.

610. Micro Economics. (3:3:0) F.
Analysis of the decision-making behavior of consumers and firms in a market economy.

612. Marketing Management. (2:3:0) F.
Imaginative problem-solving in marketing management with the aid of business cases and readings.

614. Management Control II. (3:3:0) S.
Accounting as a means of coordinating the operations of a business firm with market conditions.

616. Production Concepts. (2:3:0) S.
Cases and readings on current production processes and problems.

618. Financial Management. (2:3:0) S.
Development of the subject of finance from the point of view of the business manager. Emphasizes the use of financial statements and develops techniques and concepts for analysis of liquidity, profitability, and financial planning.

620. Quantitative Analysis in Executive Decision Making. (3:3:0) S.
The use of probability and statistical inference in risk situations. The focus is on business problems.

624. Macro Economics. (3:3:0) S.
Analysis of the measurement, level, and rate of growth of national income.

626. Written Analysis I. (3:3:0) S.
Written analysis of the characteristics of an administrative viewpoint.

651. Systems Analysis and Design. (3:3:0) F.
Analyzing the problems of planning, controlling, and improving systems.

653. Business Policy I. (3:3:0) F.
A top-management approach to the problems of determining corporate strategy.

655. Advanced Mathematical Analysis for Business Decisions. (3:3:0) F.
A study of quantitative decision models under certainty, risk, and uncertainty.

657. Advanced Financial Management. (2:3:0) F.
Analytical approach to such financial management concepts as capital budgeting and present value, valuation, reorganization, dividend policy, stockholder relationships, money and capital markets, and long range financial planning.

659. Problems of Marketing Strategy. (2:3:0) F.
A strategic approach to product planning, pricing, consumer profiles, and market development.

661. Written Analysis II. (3:3:0) F.
The preparation of a major topical research report drawn from first-hand industrial observation.

663. Business Policy II. (3:3:0) S.
A top-management approach to the problem of implementing corporate strategy.

665. Human Relations. (2:3:0) S.
Concepts of human relations theory with particular emphasis on group and intergroup conflict and collaboration.

667. Management of Financial Institutions. (2:3:0) S.
Review and analysis of the structure of our overall financial system to develop understanding of the primary forces which affect this system. Consideration of the major financial management problems of principal financial institutions.

669. Investments. (2:3:0) S.
The principles and practice of investment, with special attention to investment analysis, elements of the investment process and markets, and criteria for investment decision. Problems of both individual and institutional investors will be considered.

671. Written Analysis III. (2:3:0) S.
An analytical critique and presentation of a major topical research report.

673. The Business Administrator and Government Policy. (2:3:0) S.
The impact of governmental policies and practices on a business administrator.

675. International Business Management. (3:3:0) S.
Business decision making in other countries with emphasis on financial reporting, personnel practices, production processes, and marketing channels.

677. Business, Society, and the Individual. (2:3:0) S.
Ethical concepts in business administration and the influence of business upon the individual and the total social environment.

690. Seminar in Financial Management. (3:3:0) (Offered alternate semesters) Prerequisite: consent of instructor. Call, Faerber

691. Seminar in Financial Institutions. (3:3:0) (Offered alternate semesters) Prerequisite: consent of instructor. Call

Students and instructor in business management seminar

Chemical Engineering Science

Professors: Pope (chairman, 176 ELB), Barker, Christensen.

Assistant Professors: Clark, Hanks, Horton.

A chemical engineer helps in many ways to change raw materials into useful and valuable products. He does this through the use of chemical and physical processes. Using his basic knowledge of chemistry, physics, mathematics, and economics, he conducts research, designs, builds and operates complex plants. He often deals with people either as a supervisor, a manager, or as a technical salesman; therefore good human relations are essential. Chemical engineers do basic scientific research and development work in the chemical, petroleum, and plastic industries as well as in the fields of atomic energy, space technology, water purification, metals, textiles and many others. A chemical engineer not only learns about engineering but he is also well trained in physics, chemistry, and mathematics. With this broad background a chemical engineer is ready to step into numerous industrial fields or to enter graduate work.

Entrance Requirements

The Chemical Engineering Science Department offers a Bachelor of Engineering Science degree and a Master of Science degree. A well-qualified student can complete the course in four years plus a summer for the Bachelor of Engineering Science or five years and a summer for the Master of Science degree. In order to complete the course in the time shown, the student must fulfill all of the requirements outlined in the College of Physical and Engineering Sciences Section of this catalog. Course outlines are available for those students who start in Math. 111 (college algebra), Chem. 105, or who must complete requirements in graphics, health education, and American history. The student must satisfy both the general and University college entrance requirements. (See Student Academic Services Section). The curriculum leading to the B.E.S. degree is accredited by the Engineers Council for Professional Development (ECPD).

A three-year master's program is also available to the student. He will normally enter this program at the end of his sophomore year. The student electing to take the three-year master's program will normally utilize six hours of his credit in the senior year toward a Master of Science degree. For more details see the Graduate School Catalog.

Grade Requirements

To maintain standing and to continue in the Chemical Engineering Science Department, a student must maintain a cumulative grade-point average of "C" or better in each of the following subjects: mathematics, chemistry, and physics. Students not maintaining this average will be placed on probationary status in the department.

In order to graduate, a student must maintain an overall average of at least "C." No more than three hours of "D" credit in the major department will be counted toward graduation.

Requirements of Majors and Options

To obtain a degree in chemical engineering, the student should complete the program described below. Students enrolled in aerospace studies will require modification of the outlined program. These students should consult with the personnel of the aerospace studies program.

A student who wishes to obtain specialization in a supporting field such as applied mathematics, business, chemistry, nuclear engineering, or space engineering may substitute restricted elective courses for certain courses listed below. All requests for changes must be made in writing to the student's adviser and will be acted on by the department.

Students who wish to develop a background oriented more to the basic sciences may substitute certain courses in physics for civil engineering and electrical engineering subjects.

The listing of the optional courses as well as those courses which can be used as restricted electives are available from the department.

The following abbreviations are used: Ch.E. for chemical engineering science, C.E. for civil engineering science, E.E. for electrical engineering science, and M.E. for mechanical engineering science.

General Education Group Requirements

Engineering science students are subject to all of the general education requirements listed in this catalog with the following exceptions:

(1) They should have sufficient previous preparation to satisfactorily pass examinations excusing them from Health 130 and Hist. 170. Students lacking these may find time to take them in the second semester of the freshman year.

(2) The biological science requirements may be reduced to four semester hours instead of the six semester hours specified. All of these may be obtained in a single course if desired.

Maximum advantage should be taken of the four hours of religion credit given for attending devotional assemblies for a period of four years.

Engineering students may register for 18 hours, exclusive of physical education, forum, and devotional assemblies, in any one semester without obtaining special permission.

The following courses are required and may be taken in the sequence shown:

Suggested Sequence of Courses Leading to the B.E.S. and M.S. (Three-Year Master) in Chemical Engineering Science

(Other suggested sequences for students starting Math. 111, etc., are available from the department.)

Freshman

	F	S
Chem. 111, 112	5	5
Math. 112, 113	5	5
Engl. 111, 112	3	3
Undergrad. Relig. 121, 122	2	2
Dev. Assy. 101, 102	½	½
Ch.E. 100	1	
P.E.	½	½
	17	16

Sophomore

	F	S
Physics 211, 213	5	5
Math. 321, 323	3	3
Ch.E. 273		3
Undergrad. relig.	2	2
Dev. assy.	½	½
P.E.	½	½
Chem. 351, 352	4	3
Biol. sci.	2	2
C.E. 203	2	
	19	19

Taken in Summer or by Extension

Undergrad. relig.	4
Econ. 111	3
Hum.	3
Stat. 321	2
	12

Senior

	F	S
Ch.E. 476	3	
Ch.E. 477	1	
Ch.E. 474	3	
Ch.E. 478	3	
Ch.E. 479		3
Ch.E. 464		3
Ch.E. 499	1	2
Restricted elec.		3(a)
Dev. assy.	½	½
E.E. 301, 304	2	2
Physics 315	3	
Soc. sci., hum.	2	3
	18½	16½

Junior

	F	S
Ch.E. 374, 376	3	3
Ch.E. 375, 377	1	1
Ch.E. 373		2
Ch.E. 378		3
Math. 322	3	
Chem. 461, 462	3	5
Dev. assy.	½	½
E.E. 306, 307	½	½
Engl. 316	2	
Restricted elec.	3	
C.E. 201, 304 or physics course	3	3
	19	18

Master of Science Degree
5th Year (b)

	F	S
Ch.E. 673	3	
Ch.E. 685	2	
Ch.E. 674	3	
Ch.E. 699	4	2
Ch.E. 675		2
Ch.E. 677		2
Ch.E. 681		3
Minor	3	6
	15	15

(a) Qualified students may apply for graduate credit for Ch.E. 499, which would become Ch.E. 699, and for 3 hours of restricted elective at the graduate level.

(b) Students with full-time teaching assistantships may take only 9 hours per semester. This will require academic work in the summer following the fifth year.

Courses

100. Introduction to Chemical Engineering. (1:1:0) F.

Includes introduction to process calculations, lectures on professional development, and field trips to selected chemical industries.

273. Chemical Process Principles. (3:3:0) S. Prerequisites: Chem. 106 or 112, Physics 211, concurrent registration in Physics 213.
Barker, Christensen, Pope

Formerly 371-372. Stoichiometry, material balances, energy balances, thermochemistry, thermophysics. Application to chemical processes.

373. Chemical Engineering Thermodynamics. (2:2:0) S. Prerequisites: Ch.E. 273, Math. 323, Chem. 461.
Christensen, Horton, Eatough

Formerly 473. The first and second laws of thermodynamics and their application to the behavior of real fluids. Thermodynamic properties of materials, potential functions, and chemical equilibria.

374. Introduction to Transport Phenomenon. (3:3:0) F. Prerequisites: Ch.E. 273, Math. 322 and 323.
Barker, Hanks, Horton

Formerly 471. Theories of heat, momentum, and mass transfer and analogies among these transport mechanisms, molecular and turbulent mechanisms, steady and unsteady state application.

375. **Laboratory for Transport Phenomenon.** (1:0:3) F. Prerequisite: concurrent registration in Ch.E. 374.

Laboratory work with experiments to cover the material presented in Ch.E. 374. Emphasis will be placed on data taking, data reduction, and on reporting.

376. **Unit Operations.** (3:3:0) S. Prerequisite: Ch.E. 374.
Barker, Hanks, Pope

Formerly 472. Applications of transport principles to problems of heat transfer and fluid flow.

377. **Unit Operations Laboratory.** (1:0:3) S. Prerequisite: concurrent registration in Ch.E. 376.

An integrated laboratory course to present experiments covering the material presented in Ch.E. 376; emphasis will be on data taking, data reduction, and report writing.

378. **Science of Engineering Materials.** (3:3:0) F.S. Prerequisites: Chem. 106 or 112.
Barker, Christensen, Hanks

Principles which underlie the behavior and govern the properties of materials as related to their engineering applications.

464. **Chemical Engineering Plant Design and Economics.** (3:3:0) S. Prerequisite: Ch.E. 376.

Formerly 574. Design of chemical engineering machinery, plant, and/or processes requiring the application of unit operation, chemical process principles, and economic analysis.

474. **Chemical Engineering Thermodynamics.** (3:3:0) F. Prerequisite: Ch.E. 373.
Christensen, Horton

The first and second laws of thermodynamics and their applications to the behavior of real fluids. Thermodynamic properties of materials, potential functions, and chemical equilibria.

476. **Unit Operations.** (3:3:0) F. Prerequisite: Ch.E. 376.
Barker, Hanks, Horton, Pope

Formerly 571. Fundamentals of stage operations. Application of transport principles to such mass transfer operation as humidification, drying, crystallization, distillation, extraction, and absorption.

477. **Unit Operations Laboratory.** (1:0:3) F. Prerequisite: concurrent registration in Ch.E. 476.

Laboratory work to accompany Ch.E. 476, Unit Operation. Data taking, data reduction, and report writing will be emphasized.

478. **Chemical Engineering Kinetics.** (3:3:0) F. Prerequisites: Ch.E. 373 and Chem. 462.
Christensen, Horton, Pope

Formerly 578. Theories and applications of chemical kinetics in catalytic and noncatalytic reacting systems.

479. **Process Dynamics and Unit Processes.** (3:3:0) S. Prerequisites: Math. 323 or consent of instructor.
Barker, Clark, Pope

Formerly 579. A fundamental study of the measurements and control of process variables. The characteristics of processes, controllers, measuring elements, and the application of closed loop techniques.

498. **Special Problems.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

Formerly 598.

499. **Chemical Engineering Undergraduate Thesis.** (1-2:Arr.:Arr.) F.S.Su.

Formerly 599. An undergraduate thesis is required of all students graduating from the department. Minimum of three semester hours required.

671. **Advanced Heat Transfer.** (2:2:0) F.
Barker, Christensen, Pope

An advanced treatment of the transfer of heat.

672. **Advanced Fluid Flow.** (2:2:0) F. Hanks, Pope
An advanced treatment of the flow of fluids.

673. **Advanced Transport Phenomena.** (3:3:0) F. Barker, Hanks
Derivation of general differential equations of conservation of mass, heat, and momentum. Theory and method of estimating transport coefficients. Applications of general conservation equations to various transport phenomena.

674. **Advanced Thermodynamics.** (3:3:0) F. Christensen, Clark, Horton
Advanced applications of thermodynamics to chemical engineering problems. Estimation and correlation of thermodynamics properties; chemical equilibria and introduction to statistical and irreversible thermodynamics.

675. **Separations Processes.** (2:2:0) S. Clark, Hanks, Pope
Absorption and extraction; interphasial mass transfer, multicomponent systems, simultaneous absorption, and chemical reaction; design of equipment.

677. **Creative Skills in Chemical Engineering.** (2:2:0) S.
Christensen, Horton, Pope
Application of creativity and prior course work to the solution of open end problems currently being encountered in the frontiers of chemical engineering. Introduction to critical path scheduling and operations research.

681. **Kinetics and Catalysis.** (3:3:0) S. Christensen, Horton, Pope
Application of fundamental theories of reaction kinetics, diffusion, and absorption to reacting systems.

682. **Nuclear Engineering.** (2:2:0) Arr. Barker
Reactor design including reactor physics, heat transfer, engineering materials, instrumentation, and control.

683. **Advanced Plant Design.** (2:2:0) Arr. Pope
Comprehensive design of a chemical plant including feasibility and market surveys, economic evaluation, raw materials, plant layout, design, instrumentation, materials of construction.

684. **Advanced Process Dynamics and Control.** (2:2:0) Arr. Barker
Dynamics of chemical processes, the measurement of process variables, and the control of processes using feed-back control.

685. **Chemical Engineering Analysis.** (2:2:0) F. Hanks
Mathematical analysis of selected topics in unit operations and processes with emphasis on obtaining solutions of practical value.

686. **Distillation.** (2:2:0) Arr. Pope
Binary and multicomponent distillation, prediction of equilibrium relationships, extractive and azeotropic distillation, application of computers to complex distillation column design; instrumentation.

687. **Chemical Engineering Economics.** (2:2:0) Arr. Christensen, Pope
An investigation of the basic economic principles which govern the operations of chemical industry.

688. **Special Problems.** (Arr.) Arr.
Investigation of problems of special interest in the field of chemical engineering.

691. **Seminar.** (0:1:0) F.S.
Discussion of advanced topics including the plans and results of the master's thesis.

697. **Research.** (Arr.) F.S.Su.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

Chemistry

Professors: Goates (chairman, 225 ESC), Anderson, Blackham, Broadbent, Bryner, Butler, Gubler, Hall, Izatt, Nelson, Swensen.

Associate Professors: Hawkins, Ott, Peterson, Snow, White.

Assistant Professors: Bills, Cluff, Hawkes, Mangum, Paul, Wilson, Wing.

Superintendent of Laboratories: Meibos.

Graduates in chemistry obtain positions in virtually every industry. Graduates with imagination and intellectual curiosity are in especial demand to fill research positions. The curriculum in chemistry is rigorous but intellectually rewarding.

The program given here is applicable to all students who graduate in chemistry after August 1967. Students who expect to graduate in May or August of 1967 should consult their advisers for assistance with course schedules.

A student who wishes to graduate with a major in chemistry certified by the American Chemical Society must successfully complete the following courses: Chem. 111, 112, 351, 352, 354 (2 hours), 355 (2 hours), 461, 462, 464, 491, 504, 514, 521, 522, 594 (A & B), and 5 additional hours of credit chosen from the 500 series courses offered by the department. In addition, Math. 112, 113, and 321; Physics 211, 212, 213, 214, and 315; and one year of college credit (or its equivalent) in French, German, or Russian are required. If a student is not prepared to start Chem. 111 upon his enrollment, he should take Chem. 105 followed by 111 and 112. No more than three hours of "D" credit in chemistry will be counted in meeting the requirements of either of the majors in chemistry.

A student who desires a major in chemistry not certified by the American Chemical Society (e.g. premedical, predental, chemistry teaching majors, etc.) must successfully complete the following courses: Chem. 111 and 112, 351, 352, 354 (1 hour), 355 (1 hour), 461, 462, 464, 491, 594 (A & B), and either 514 or 521. The total credit hour requirement under this option is 30 hours with 521 and 31 hours with 514. Chemistry teaching majors should see the Teacher Education Section of this catalog for specific requirements for teacher certification.

For details concerning the program for graduate study leading to the M.S. and Ph.D. degrees in chemistry, students should consult the Graduate School Catalog.

Suggested Curriculum

I

	F		S
Chem. 111	5	Chem. 112	5
Math. 112 (or 111)	5	Math. 113 (or 112)	5
Engl. 111	3	Engl. 112	3
Undergrad. relig.	2	Undergrad. relig.	2
P.E.	½	P.E.	½
Health 130	2	Hist. 170	3
Total Hours	17½	Total Hours	18½

II

	F		S
Chem. 351, 354	5	Chem. 352, 355	5
Math. 321 (or 113)	5	Math. 322 (or 321)	3
Physics 211, 212	5	Physics 213, 214	5
P.E.	½	P.E.	½
Undergrad. relig.	2	Undergrad. relig.	2
		Gen. ed. and electives	3
Total Hours	17½	Total Hours	18½

III

	F		S
Chem. 461	3	Chem. 462, 464	5
Math. 323	3	Chem. 491	1
German 101	4	German 102	4
Undergrad. relig.	2	Physics 315	3
Gen. ed. and electives	6	Undergrad. relig.	2
		Gen. ed. and electives	3
Total Hours	18	Total Hours	18

IV

	F		S
Chem. 521, 522	4	Chem. 504	2
Chem. 594A	½	Chem. 514	3
*Advanced chem.	3	Chem. 594B	½
Undergrad. relig.	2	*Advanced chem.	2
Physics 431 or 551	3	Undergrad. relig.	2
Gen. ed. and electives	6	Gen. ed. and electives	9
Total Hours	18½	Total hours	18½

*Chosen from 500 series courses in chemistry.

Courses

97. General Chemistry Review. (0:3:0) F.S. Evening Classes only.

100. Elementary College Chemistry. (3:3:0) F.S.Su. Home Study also. (G-PS)
An introduction to the structure of matter and the chemical consequences of that structure. For nonscience majors in partial fulfillment of the general education requirement for graduation and for science majors who require additional background in order to register for Chem. 105.

101. Introductory Chemistry. (4:3:3) F.S. (G-PS m)
General principles of inorganic chemistry for students outside the physical sciences whose discipline requires a supporting background in chemistry.

105, 106. General College Chemistry. (4:4:0, 4:2:6) F.S.Su. (G-PS m) Prerequisites: concurrent registration in Math. 105 or 111 or its equivalent. Recommended: high school chemistry or physics.
A standard one-year sequence of courses in the principles of chemistry for students of the physical and biological sciences, engineering, and the preprofessional medical programs.

111, 112. Principles of Chemistry. (5:4:6 ea.) F.S. (G-PS m) Prerequisites: completion of or concurrent registration in Math. 105 or 111; completion of one year of high school chemistry. Recommended: one year of high school physics.
A course in the fundamentals of chemistry for those students who have had superior training in high school physical sciences. Quantitative chemical measurement and qualitative analysis are emphasized in the laboratory.

151. **Introductory Organic Chemistry.** (5:4:3) F.S. (G-PS m) Prerequisite: Chem. 101 or equivalent.
General principles of organic chemistry for students outside the physical sciences whose discipline requires a supporting background in chemistry.

223. **Quantitative and Qualitative Analysis.** (5:3:6) F.S.Su. (m) Prerequisite: Chem. 106 or consent of instructor.
A course emphasizing the principles of chemical equilibrium, quantitative chemical measurements, and qualitative detection of selected chemical elements.

228. **Fire Assaying.** (2:1:3) F. (m) Prerequisite: Chem. 112 or 223.

301. **Fundamentals of Chemistry for General Science Teachers.** (2:2:0) Su.
Restricted to experienced teachers of general science or similar subjects.

351, 352. **Organic Chemistry.** (3:3:0 ea.) F.S.Su. Prerequisites for Chem. 351: Chem. 106 or 112 and concurrent registration in Chem. 354. Prerequisite for Chem. 352: Chem. 351.

354, 355. **Organic Chemistry Laboratory.** (1-2:0:3-6 ea.) F.S.Su. Prerequisites: concurrent registration in Chem. 351 and 352 respectively.

384. **Introductory Physiological Chemistry.** (3:3:0) S. (m) Prerequisite: Chem. 151 or 351.

385. **Physiological Chemistry Laboratory.** (2:0:6) S. (m) Prerequisite: concurrent registration in Chem. 384.

404. **Methods of Glass Manipulation.** (1:0:3) F.S. Prerequisite: consent of instructor.

461, 462. **Physical Chemistry.** (3:3:0 ea.) F.S. Prerequisites: Chem. 112 or 223, Physics 213, and Math. 113; Chem. 464 must be taken concurrently with Chem. 462.

464. **Physical Chemistry Laboratory.** (2:0:6) S. Prerequisite: concurrent registration in Chem. 462.

491. **Chemical Literature and Technical Writing.** (1:1:0) S.

503. **Research Laboratory Techniques.** (1:0:3) F.

504. **Instrumental Analysis.** (2:1:3) F.S. Prerequisite: Chem. 461.

514. **Inorganic Chemistry.** (3:3:0) S.

518. **Inorganic Syntheses.** (2:0:6) S. (Offered 1967-68 and alternate years)

521. **Analytical Chemistry.** (2:2:0) F. Prerequisites: Chem. 462, 465.

522. **Analytical Chemistry Laboratory.** (2:0:6) F. Prerequisite: concurrent registration in Chem. 521.

524. **Quantitative Microanalysis.** (2:1:3) S. (Offered 1966-67 and alternate years

551. **Systematic Identification of Organic Compounds.** (2-3:1:3-6) F.

552. **Advanced Organic Chemistry.** (3:3:0) S.

561, 562. **Chemical Thermodynamics.** (3:3:0) F. (2:2:0) S. Prerequisite: Chem. 462.

564. **Nuclear and Radiochemistry.** (3:2:2) S. (Offered 1967-68 and alternate years

581, 582. **Biochemistry.** (3:3:0 ea.) F.S. Prerequisite: Chem. 352.

584, 585. **Biochemistry Laboratory.** (2:0:6 ea.) F.S. Prerequisite: completion of or concurrent registration in Chem. 581, 582, respectively.

594A,B,C,D,E,F,G,H. **General Seminar.** (½:1:0 ea.) Required of all senior and graduate students in chemistry every semester in residence.

598. **Special Problems.** (Arr.) Arr.
Registration by permission.

600. **Directed Teaching in Chemistry.** (1:1:0) F.S.

601. **Geometry of Atoms and Molecules.** (3:3:0) F.

611. **Chemistry of Main Group Elements.** (3:3:0) S. (Offered 1967-68 and alternate years.)

612. **Chemistry of Transitional Elements.** (3:3:0) S. (Offered 1966-67 and alternate years.)

658. **Organic Syntheses.** (3:1:6) F.

663. **Reaction Kinetics.** (2:2:0) F. (Offered 1967-68 and alternate years.)

681. **Biochemistry of Lipids.** (2:2:0) F. (Offered 1966-67 and alternate years.)

682. **Biochemistry of Nucleic Acids.** (2:2:0) F. (Offered 1966-67 and alternate years.)

683. **Biochemistry of Carbohydrates.** (2:2:0) S. (Offered 1966-67 and alternate years.)

684. **Biochemistry of Proteins.** (2:2:0) S. (Offered 1967-68 and alternate years.)

697. **Master's Candidate Research.** (Arr.) Arr.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.)

719. **Selected Topics in Inorganic Chemistry.** (1-3:1-3:0) Arr.

725. **Electro-Analytical Chemistry.** (3:3:0) F. (Offered 1966-67 and alternate years.)

729. **Selected Topics in Analytical Chemistry.** (1-3:1-3:0) Arr.

751. **Mechanisms of Organic Reactions.** (3:3:0) F.

757. **Chemistry of Natural Products.** (3:3:0) S. (Offered 1967-68 and alternate years.)

758. **Heterocyclic Compounds.** (3:3:0) S. (Offered 1966-67 and alternate years.)

759. **Selected Topics in Organic Chemistry.** (1-3:1-3:0) Arr.

761, 762. **Statistical Mechanics.** (3:3:0 ea.) F.S. (Offered 1966-67 and alternate years.)

765, 766. **Quantum Chemistry.** (3:3:0 ea.) F.S. (Offered 1967-68 and alternate years.)

769. **Selected Topics in Physical Chemistry.** (1-3:1-3:0) Arr.

781. **Enzyme Chemistry.** (2:2:0) F. (Offered 1967-68 and alternate years.)

782. **Mammalian Biochemistry.** (2:2:0) S. (Offered 1967-68 and alternate years.)

789. **Selected Topics in Biochemistry.** (3:3:0) Arr.

797. **Doctoral Candidate Research.** (Arr.) Arr.

799. **Dissertation for the Ph.D. Degree.** (Arr.) Arr.

Child Development and Family Relationships

Professors: Cannon, Knowles, Moss, Porter.

Associate Professor: Rollins.

Assistant Professors: Laws (chairman, 1239 SFLC), Barlow.

Instructors: Anderson, Larsen, Orrock, Taylor, Tyndall, Valentine, Zollinger.

Special Instructor: Connelly.

The Department of Child Development and Family Relationships emphasizes two areas of knowledge: child development and family relations. In the child development area, the basic developmental and behavioral characteristics of the child are studied from conception to adulthood. In the family relations area, students gain knowledge and insight concerning dating, courtship, marriage, and family behavior throughout the family life cycle. Courses are also selected from other departments in order to enrich and broaden the student's understanding of human development.

A prescribed core of classes from the departmental offering is required of all students majoring in the department. This core provides a basic understanding of the development of interpersonal relationships. In addition, a student may choose to emphasize one of three available options to satisfy his particular vocational and intellectual interests. These options include:

Child Development and Family Relationships—Elementary Education Composite
Child Development
Family Relations

An outline of the recommended programs for each of the above options is available at the departmental office.

Vocational Goals

The **composite** program prepares a graduate to teach kindergarten through the sixth grades in elementary schools. Further job opportunities may be available in nursery schools, day-care centers, and government "headstart" programs.

The option of **child development** provides opportunities for students who desire to teach in nursery schools or work in day-care centers, government "headstart" programs and community social sevices. In addition the student may, through proper selection of courses, prepare himself for advanced work in child development.

The **family relations** option, depending on the selection of courses, will provide the student with a foundation for graduate studies leading to professional opportunities in teaching, research, community education programs, marriage and family counseling, and extension services. The student who completes a bachelor's degree may find vocational opportunities in community social services, government and community youth programs in addition to vocations where a knowledge of human relations is required.

The study of child development and family relationships from conception to old age also provides the insight, understanding, and skills necessary for competence in marriage and family relationships. A student may, therefore, desire to combine his interest in preparing to serve families professionally with personal preparation to become an effective family member through a major in child development and family relationships.

Human Development Laboratories

The B.Y.U. Human Development Laboratories are among the most modern in the nation. Through the laboratories of the University and the facilities of the community, opportunities are provided for the study of various aspects of human development from infancy through old age.

Affiliation with Merrill-Palmer

Selected junior and senior students in the department have the opportunity to enhance their professional training by attending one semester at the Merrill-Palmer Institute of Human Development and Family Life at Detroit, Michigan. Students who are interested should contact their adviser and the department chairman.

Requirements for a Minor

For a minor in child development and family relationships, a minimum of 14 credit hours of courses approved by the department is required. These must include CDFR 210 and 361.

Requirements for a Major

For a major in child development and family relationships, a minimum of 24 credit hours in the department is required. A basic core of 12-16 credit hours, which includes CDFR 210, 322 or 323-422, 360, and 361, is required of all majors. The additional 8-12 credit hours should be selected in terms of the student's area of emphasis in consultation with a department adviser. Psych. 111 and Sociol. 111 are required of all majors except the child development and family relationships elementary education composite majors.

In addition to the above requirements, the student shall elect to take at least one course from each of the following departments in the College of Family Living: Clothing and Textiles, Food and Nutrition, Housing and Home Management. This requirement is designed to give the student an introduction to the philosophy and interrelationships of departments in the College of Family Living.

Graduate Program

The Department of Child Development and Family Relationships offers training leading to a Master of Science degree in either child development or family relations. It offers training leading to a Doctor of Philosophy degree in three fields: child development, family relations, and marriage and family counseling. For information concerning these programs, consult the **Graduate School Catalog.**

Courses

210. Child Development. (3:3:1) F.S.Su. (G-SS m) Recommended: Psych. 111.
Anderson, Barlow, Knowles, Larsen, Valentine, Zollinger

Consideration of the growth and development of the child and his relationships with his family, peers, and teachers from infancy through adolescence. One hour observation per week as part of preparation.

261. The Latter-day Saint Family (2:2:0) F.S.Su. Laws

Place of the family in L.D.S. doctrine and philosophy, together with application of basic religious principles to marriage and family relationships. A comparison of L.D.S. and non-L.D.S. families in time and space.

305. Development in Infancy. (2:2:1) F.S. Larsen

The physical, cognitive, and social developmental characteristics during the first 18 months with implications for guidance and care in the family unit.

312. Principles of Child Guidance. (2:2:0) F.S. (m) Larsen

Application of knowledge and understanding of child behavior and psychodynamics of family interaction to guidance of children. Behavior and guidance principles are studied directly in the human development laboratories. Helpful to parents and prospective parents.

322. **Creative Experiences with Children.** (3:2:6) F.S. (m) Prerequisite: CDFR 210 or equivalent. Tyndall

Designed to promote increased self-understanding, develop skills in working with children, and gain experiences in the use of creative play materials through participation in the human development laboratories. Lab fee $4.50.

323. **Organization and Planning for Preschool Programs.** (3:3:0) F.S.Su. (m) Prerequisite: CDFR 210; application required semester in advance. Barlow, Taylor

Consideration of factors involved in the development of preschool programs. Study of essential procedures in preschool planning including housing, curriculum, equipment, guidance, health protection, and food service. Field trip.

360. **Achieving Success in Marriage.** (3:3:0) F.S.Su. (G-SS m) Cannon, Connelly, Knowles, Laws, Moss, Porter, Rollins

Consideration of maturity, love, compatibility, conflict, specific areas of adjustment in marriage, parent-child relationships, and effective management of family resources.

361. **Family Relationships.** (3:3:0) F.S.Su. (G-SS m) Prerequisites: 6 hours in CDFR, psychology, and sociology. Connelly, Laws, Moss, Rollins

Consideration of the interaction and interpersonal relations through the various stages of the family life cycle and the influence of the family on its members in developing values, goals, attitudes, and patterns of behavior.

410. **Advanced Child Development.** (3:2:2) F.S.Su. (m) Prerequisites: CDFR 210, 361; Psych. 111. Knowles, Rollins

Physiological, intellectual, social and emotional development of the preschool and schoolage child. Two hours observation and discussion of preschool and schoolage children required each week.

422. **Methods and Teaching Experiences in the Human Development Laboratory.** (4:2:8) F.S.Su. Prerequisites: CDFR 323; application semester in advance required. Anderson, Barlow, Larsen, Taylor, Tyndall Valentine, Zollinger

Experience in teaching and supervising a group of nursery school children. Students arrange with instructor to spend twelve hours a week in the nursery school laboratories. Lab. fee $9.00.

440. **Family Life in the Middle and Later Years.** (2:2:0) S.Su. Prerequisites: 6 hours in CDFR, psychology, and sociology. Cannon

Adjustments in middle and later years revolving around physical, emotional, and social changes. Emphasis is placed upon needs that arise from changes in family relationships, living arrangements, and employment.

460. **Marriage and Family Interaction.** (3:3:0) F.S.Su. Prerequisites: 12 hours in CDFR, psychology, and sociology (including CDFR 360). Cannon, Moss

An advanced appraisal of courtship, marriage relationships, and family interaction. A professional course designed primarily for majors in CDFR and related fields.

461. **The Family and the Law.** (2:2:0) F. Nelson

Consideration of legal aspects of marriage and family life such as marriage statutes, property rights, separation and divorce, adoption, custody of children, wills, etc.

492. **Seminar in Theory and Concepts.** (2:2:0) F.S.Su. Prerequisites: 10 hours in CDFR. Cannon, Laws, Moss, Porter

Evaluation and integration of basic theories and concepts in CDFR.

493. **Survey of Research Study.** (2:2:0) F. Prerequisites: 10 hours in CDFR. Cannon, Laws, Moss, Porter

Critical analysis and evaluation of all varieties of research studies in CDFR.

510. **Child Development: Physical and Emotional Development.** (2:2:0) F. Prerequisites: CDFR 210, 410. Knowles

A systematic survey of recent research on physical and emotional development of children from conception through adolescence.

511. **Child Development: Intellectual and Social Development.** (2:2:0) S. Prerequisite: CDFR 510. Knowles

A systematic survey of recent research on intellectual and social development of children from conception through adolescence.

520. **Workshop in Child Development.** (2:2:0) Su. Prerequisites: 8 hours in CDFR or consent of department chairman.

Intensive study of application of principles of child development and child guidance.

560. **Workshop in Family Relationships.** (2:2 wks., 8 hrs./day:0) Su. Prerequisites: 8 semester hours in CDFR and/or consent of department chairman.

Intensive study of application of principles of family relationships.

566. **Materials and Procedures in Family Life Education.** (2:2:0) Su. Moss

An evaluation of materials, resources, and procedures in teaching family life education in the high school.

570. **Community and Professional Responsibilities to Children and Families.** (2:2:0) S. (m) Prerequisites: CDFR 210, 361; Sociol. 111. Moss, Porter

Acquaintance with resources of the community as they relate to the welfare of children and families. A consideration of the responsibilities of professional persons working with children and families.

575. **Parent Education.** (2:2:0) S. Prerequisite: consent of instructor.

Basic principles in organization of parent study programs. Formulation and presentation of program for parents.

580. **Introduction to Marriage and Family Counseling.** (2:2:0) F.Su. Prerequisite: consent of instructor. Laws, Porter

Theories and techniques used in marriage and family counseling. Consideration of individual and group counseling as it pertains to the family.

590. **Readings in Child Development and Family Relationships.** (1-2:1-2:0) F.S.Su. Prerequisite: consent of instructor. Cannon, Knowles, Laws, Moss, Porter, Rollins

Discussions and reports of current readings in this field. Open to students who have completed fifteen hours of courses in child development and family relationships.

595. **Special Topics in Child Development and Family Relationships.** (1-2:1-2:0) F.S.Su. Cannon, Knowles, Laws, Moss, Porter, Rollins

Individual study for qualified students majoring in child development and family relationships upon consultation with the instructor and the chairman of the department.

596. **Research Problems and Methods in Child Development and Family Relationships.** (2:2:0) F. Cannon, Moss, Rollins

Analysis of research methods used in child development and family relationships. Students have active experience in formulating a research project.

611. **Current Concepts and Research in Child Development.** (2:2:0) F. Prerequisite: CDFR 410. Porter, Rollins

616. Measurement Techniques in Child Development. (2:2:1) S. Prerequisites: CDFR 410, 510; Psych. 450. Rollins

660. Family Patterns and Individual Development. (2:2:0) S. Porter, Rollins

661. Dynamics of Family Interaction. (2:2:0) S. Prerequisites: CDFR 360, 460. Moss, Porter, Rollins

663. Critical Problems in Family Life. (2:2:0) F. Prerequisite: CDFR 361. Cannon, Rollins

664. Current Concepts and Research in Family Relationships. (2:2:0) F. Cannon, Moss, Porter, Rollins

667. Problems of Teaching Marriage and Family Relationships in College. (2:2:0) S.Su. Cannon, Laws, Moss

685. Developmental Use of Play Experiences. (2:2:0) S. Prerequisite: consent of instructor.

692, 693. Seminar. (2:2:0 ea.) F.S. Cannon, Knowles, Laws, Moss, Porter, Rollins

697. Independent Research. (1-3:1-3:0) F.S. Cannon, Knowles, Laws, Moss, Porter, Rollins

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. Cannon, Knowles, Laws, Moss, Porter, Rollins

760. Concepts and Theories of Marriage and the Family. (3:3:0) F. Moss

780. Marriage and Family Counseling. (2:2:0) F. Prerequisites: CDFR 580; consent of instructor. Laws

781. Case Analysis in Marriage Counseling. (2:2:0) S. Prerequisite: CDFR 780. Laws

785, 786. Practicum in Marriage Counseling. (3:1:6 ea.) F.S. Prerequisites: CDFR 780, 781; consent of instructor. Laws

792. Seminar in Marriage Counseling. (2:2:0) S.Su. Laws

794. Special Topics in Child Development. (1-2:1-2:0) F.S.Su. Knowles, Porter, Rollins

795. Special Topics in Family Relationships. (1-2:1-2:0) F.S.Su. Cannon. Laws, Moss, Porter

797. Doctoral Candidate Research. (2-4:2-4:0) F.S.Su. Cannon, Knowles, Laws, Moss, Porter, Rollins

799. Dissertation for the Ph.D. Degree. (Arr.) F.S.Su. Cannon, Knowles, Laws, Moss, Porter, Rollins

Civil Engineering Science

Professors: Barton (chairman, 196 ELB), Enke, Firmage, Fuhriman, Rollins.
Associate Professors: Christiansen, Karren.
Assistant Professors: Budge, Calder, Tippetts, Wilkes, Wilson.
Special Instructors: Merritt, Naylor.

The Department of Civil Engineering offers professional programs leading to the degrees of Bachelor of Engineering Science in civil engineering and Master of Science. The curriculum is accredited by the Engineers Council for Professional Development (ECPD).

Course work is offered in the areas of solid mechanics and materials, soil mechanics and foundation engineering, structural mechanics and structural engineering, highway and transportation engineering, and water resources and sanitary engineering. Training at B.Y.U. places emphasis on the science foundations of physics, chemistry, and mathematics. The student is also provided with a well-balanced program of social studies, religion, biological sciences, and humanities.

The extensive background of the faculty will prove valuable to those who wish to undertake special projects in their undergraduate work or research topics in their graduate work. Seminar work and participation in technical meetings sponsored by student organizations provide a rich beginning to a career in civil engineering. Professional opportunities upon graduation in this field exist in research and development, design, construction, sales engineering, teaching, business management, and many other divisions.

Entrance Requirements

For both the general entrance requirements of the University and the particular requirements specified for the College of Physical and Engineering Sciences, see those sections of this catalog.

Grade Requirements

To receive the B.E.S. degree in civil engineering a student must complete courses satisfying University and departmental requirements with a cumulative grade-point average of 2.0 (C) minimum. A cumulative average grade of "C" or better must be maintained in all advanced mathematics and engineering subjects; otherwise, the student is placed on probationary status in the department. No more than six hours of "D" credit in subjects of the major department will be counted toward graduation. A student must receive an average grade of "C" or better in each area of chemistry, mathematics, and physics.

General Education Requirements

Engineering science students are subject to all of the general education requirements listed in this catalog, with the following exceptions and suggestions:

(1) The biological science requirement may be reduced to four semester hours instead of the six semester hours specified. Civil engineers will meet the biological sciences required by taking Bact. 121 and 381.

(2) Maximum advantage should be taken of the four hours' religion credit given for attending devotional assemblies for a period of four years.

(3) It is particularly recommended that the student take Econ. 101, Psych. 111, or Sociol. 111 in satisfying the social science group requirements.

Requirements for Bachelor of Engineering Science Degree

The student first enrolls in the general curriculum of civil engineering and continues in a prescribed technical program for three years. In the fourth year, he has the opportunity of selecting technical electives to strengthen a chosen field of interest. Also in the fourth year, the student may elect to begin study for the master's degree.

All students must satisfy the general education requirements of the University, the departmental requirements, plus 12 hours of technical electives in order to earn the B.E.S. degree. The departmental course requirements are listed below and in addition a typical sequence of courses is shown which is applicable for the student who comes well-qualified from high school. For such a student, a B.E.S. degree may be earned in four years and a summer period or possibly some extension work. If the student is well prepared in high school, he may be excused by examination from Health 130, Hist. 170, and C.E. 101 (Graphics). An adequate high school background in mathematics may also permit the student to begin at the analytical geometry and calculus level, Math. 112. Students enrolled in aerospace studies will normally be required to spend an extra summer to finish their program.

Engineering students may register for 18 hours, exclusive of physical education, forum, and devotional in any one semester without obtaining special permission.

Departmental Requirements for the B.E.S. Degree

Chem. 105, 106.

Physics 211, 212, 213, 214.

Math. 112, 113, 321, 322.

Stat. 321.

M.E. 321.

Geol. 330.

Bact. 121, 381.

E.E. 301, 302 and 303 (or 304 and 305), 306, 307.

C.E. 100, 102, 200, 201, 203, 211, 212, 303, 304, 305, 321, 332, 341, 423, 424, 431, 432, 461, 491A,B, 571 (and 12 hours of technical electives from the following C.E. numbers: 403, 413, 422, 527, 542, 551; also Ch.E. 378; and Engl. 316, or other courses as approved by petition).

Civil Engineering Bachelor of Engineering Science Program

First Year

	F	S
Chem. 105, 106	4	4
Math. 112, 113	5	5
Engl. 111, 112	3	3
C.E. 102, 203	2	2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
C.E. 100	1	
Dev. Assy. 101, 102	½	½
Total Hours	18	17

Second Year

	F	S
Physics 211, 213	4	4
Physics Lab. 212, 214	1	1
Math. 321, Stat. 321	3	2
C.E. 211, 212	3	2
Bact. 121 and 381	3	2
Undergrad. relig.	2	2
C.E. 200, 201	1	3
P.E.	½	½
Dev. Assy. 201, 202	½	½
Total Hours	18	17

Summer or Extension: General Education—8 credits

Third Year

	F	S
C.E. 303, 304	3	3
M.E. 321, C.E. 332	3	3
Geol. 330	3	
C.E. 305, 321	2	3
E.E. 306, 307	1	
C.E. 341		3
Math. 322	3	
Tech. elect.		3
Dev. Assy. 301, 302	½	½
Undergrad. relig.	2	2
Total Hours	17½	17½

Fourth Year

	F	S
C.E. 423, 424	3	3
C.E. 491A,B	½	½
C.E. 461, 571	3	3
E.E. 301, 302 and 303 (or 304 and 305)	2	3
Dev. Assy. 401, 402	½	½
C.E. 432	3	
C.E. 431	3	
Gen. ed. and Tech. elect.	3	9
Total Hours	18	19

Requirements for Master of Science Degree

The master's degree is growing in importance and greater emphasis is being placed on graduate-level preparation for the professional engineer. The Master of Science degree may be earned in one additional year of study beyond the bachelor's degree. A student must formally apply for admission to the Graduate School to study for the master's degree and the "Graduate Catalog" contains details of the Graduate School requirements. However, basic technical group requirements of the Department of Civil Engineering are shown below for the Master of Science degree.

Master of Science Basic Requirements

	Credit Hours
Major technical electives	15
Minor technical electives	9
Thesis	6
TOTAL	30

As part of the major or minor requirements, the department requires six credit hours of mathematics above the level of ordinary differential equations. A nonthesis program may be petitioned for, which, if granted, increases the total hours required to a minimum of 32. The graduate student is required to register for graduate seminar, C.E. 691, each semester that he is a full-time student. A minimum of one credit hour is required. This credit, at ½ credit hour per semester, is not counted as part of the 30-hour total.

A well-qualified student entering as a freshman may obtain the master's degree in five years plus a summer or extension work. Undergraduate students who elect to study for the master's degree may begin enrolling for graduate credit in the fourth year. It is recommended that a mathematics elective be taken in the Fall Semester and that C.E. 571 be postponed until the fifth year. The election in the fourth year of the master's program and subsequent adjustment of the student's program requires application and approval by the department. The department chairman should be consulted for further details.

The B.E.S. and M.S. degrees will be awarded as the specific requirements are fulfilled. To assist the student who elects the master's program in the fourth year, a typical program for the fourth and fifth years is shown below.

Fourth-Year Master of Science Program

	F	S
C.E. 423, 424	3	3
C.E. 461	3	
C.E. 431	3	
C.E. 432	3	
C.E. 491A,B	½	½
E.E. 301, 302 and 303 (or 304 and 305)	2	3
Dev. Assy. 401, 402	½	½
Math. elective	3	
Gen. education and technical electives		9
Total Hours	18	16

Fifth-Year Master of Science Program

	F	S
C.E. 691A,B,	½	½
C.E. 571		3
Major and minor electives and thesis	15	12
Total Hours	15½	15½

Courses

100. Introduction to Civil Engineering I. (1:1:0) F.

Introduction to the fields and profession of civil engineering. Study of principles involved in solving engineering problems. Slide rule utilization.

101. Introduction to Engineering Graphics. (2:1:4) F.S.Su.

Materials and instruments in engineering drawing, introductory practice in orthographic projection; transfer of pictorial sketches and machine part samples to scaled drawings; lettering; auxiliary projection; dimensioning; sections and conventional practices; complete working drawings and reproduction processes.

102. Engineering Graphics I. (2:1:4) F.S.Su. Prerequisites: Math. 111, C.E. 101 or equivalent.

Graphics principles including three dimensional space problems with points, lines, and planes; intersections, developments, gears, cams and elementary linkage analysis, and curved and warped surfaces.

200. Introduction to Civil Engineering II. (1:1:0) F.

A continuation of C.E. 100. Design concepts and procedures as related to civil engineering. Project evaluation and synthesis.

201. Engineering Mechanics-Statics. (3:2:3) F.S.Su. Home Study also. Prerequisites: Physics 211 or equivalent, Math. 113.

Introductory concepts of mechanics, force systems, and problems of equilibrium applied to structures, centers of gravity and centroids, elementary hydrostatics, friction in engineering problems, beam problems, and virtual work.

203. Engineering Graphics II. (2:1:4) F.S.Su. Prerequisite: Math. 112 or equivalent.

Graphical mathematics, graphic statics, special sliding scales, nomography, empirical equations, graphic calculus and introduction to conceptual design.

211. Elementary Surveying. (3:2:3) F. Prerequisites: Math. 111, C. E. 102 or consent of instructor.

Lectures and field work in measurements of distances, angles, and differences of elevation using the usual survey methods and instruments; preparation of notes; adjustments; simple triangulation and traverses; and use of the plane table.

212. Engineering Surveying. (2:1:3) S. Prerequisite: C.E. 211 or equivalent.

More advanced concepts in survey theory, including curve and earthwork survey and astronomical observations. Emphasis on engineering uses of survey techniques.

303. Engineering Mechanics—Mechanics of Materials. (3:2:3) F.S.Su. Home Study also. Prerequisite: C.E. 201.

Fundamental concepts in terms of elastic stress and strain relations; cylinders and spheres under pressure; problems of torsional load; beam theory including bending stresses, complex stress, calculations of deflection and continuity aspects, two-dimensional elastic theory.

304. Engineering Mechanics—Dynamics. (3:2:3) F.S.Su. Home Study also. Prerequisites: C.E. 201, Math. 321.

Basic concepts of dynamics applied to particles, systems of particles, rigid bodies, vibration systems, nonrigid particles systems and an introduction to selective topics in advanced methods in dynamics. Vector notations used in the treatment of all topics.

305. Properties of Materials. (2:1:3) F.S. Prerequisite: C.E. 303 or consent of instructor.

Theories and procedure of physical testing of materials; introduction to failure theories and solid-state concept of behavior of materials; the mechanics of deformation.

321. Elementary Structural Theory. (3:3:0) S. Home Study also. Prerequisite: C.E. 201, or C.E. 303 or consent of instructor.

Loads on structures, beams, trusses, influence diagrams, three-dimensional analysis, cable systems, approximate analysis of frames, deflections.

332. Hydraulics and Fluid Flow Theory. (3:3:0) S. Prerequisites: M.E. 321, C.E. 201.

An integrated study of the physical properties of fluids, fluid statics, fluid dynamics, viscous flow, compressible, and incompressible flow—with particular emphasis to incompressible flow and other civil engineering applications.

341. Elementary Soil Mechanics. (3:2:3) S. Prerequisites: C.E. 303, 332, Geol. 330 or consent of instructor.

Basic physico-chemical characteristics of soils. The soil water system. Permeability seepage and associate uplift pressures. Consolidation theory, strength theory and the shearing strengths of sand and clay. Earth pressure theories, slope stability analysis, and applied aspects.

403. Concrete Technology. (3:2:3) Arr. Prerequisite: Geol. 330.

Manufacture and testing of cements; technology of concrete materials and concrete mix design; techniques of concrete handling, placing, and treatment; laboratory work.

413. Photogrammetry. (2:1:3) Arr. Prerequisite: C.E. 212.

Theory and application of the use of terrestrial and aerial photographs to produce maps; vertical and oblique photography and mapping procedures; stereoscopic viewing and measurements for relative position of objects in three dimensions, photo interpretation, sources of errors.

422. Theory of Statically Indeterminate Structures. (3:3:0) Arr. Prerequisite: C.E. 321.

Moment distribution, slope deflection, work and energy methods, elastic center, column analogy, influence lines, arch theory.

423. Structural Steel Design. (3:2:3) F. Prerequisites: C.E. 305 and 321.

Theory and design of structural steel and other structural metals using elastic and plastic design concepts. Stress analysis and design of beams, stiffened girders, tension and compression members, and their connections.

424. Reinforced Concrete Design. (3:2:3) S. Prerequisite: C.E. 321.

Theory and design of reinforced concrete structures from both the elastic and plastic approach. Introduction to prestressed concrete.

431. Hydrology. (3:2:3) F. Prerequisite: C.E. 332.

Water as it occurs in nature; relationships between precipitation, evaporation, infiltration, transpiration, groundwater, and stream runoff.

432. Hydraulic Engineering. (3:2:3) F. Prerequisite: C.E. 332.

Application of principles of fluid mechanics to hydraulic engineering. Analysis of multiple pipe flow systems, open channel flow, hydraulic transitions and other practical hydraulic engineering problems.

461. Highway Engineering. (3:2:3) F. Prerequisite: C.E. 341.
Traffic studies, geometric design, grade separations, and interchanges. Properties subgrades, base courses, bituminous materials, and surface pavements. Theory and practice in flexible pavement design. Design of concrete pavements and techniques of road construction.

491A,B. Civil Engineering Seminar. (½:1:0) F.S.
Group discussion of technical and professional activities of the civil engineering profession. Participation by faculty, professional engineers, and other invited personnel and advanced students. Required of all majors in the fourth or fifth year.

501. Advanced Mechanics of Materials I. (3:3:0) (Interdepartmental) Arr. Prerequisite: C.E. 303.
Introduction to theories of elasticity, plasticity, and strain energy methods; stresses and strains in beams, curved members, rotating discs, thick cylinders, torsion and structural members.

502. Advanced Properties of Materials I. (3:3:0) (Interdepartmental) Arr. Prerequisite: 305 or equivalent.
Modern concepts of mechanics as applied to the behavior of engineering materials under various loading conditions and use including static, creep, fatigue and impact; stress concentrations; temperature and other environmental conditions; state of stress and internal structure; dislocation theory; tests and interpretation of test data.

503. Applied Elasticity. (3:3:0) Arr. Prerequisites: C.E. 303; Math. 321.
Analysis of stress and strain in two dimensions; equation of equilibrium and compatibility; problems in elasticity; emphasis on applications to machine and structural design.

507. Experimental Stress Analysis I. (3:2:3) Arr. Prerequisite: C.E. 303.
Principles and techniques of the experimental methods of stress determination and their applications to static engineering problems; includes mechanical and optical gages, and brittle lacquers; emphasizes electric strain gages, calibration, and instrumentation; introduces photoelasticity and photostress techniques.

527. Stiffness and Flexibility Methods in Structures. (3:3:0) F.S. Prerequisite: C.E. 422.
Application of matrix algebra, development of the stiffness and flexibility matrices and the application of these methods to statically determinate and indeterminate articulated, frame and arch structures. Use is made of the digital computer.

531. Water Resources Engineering. (3:2:3) Arr. Prerequisites: C.E. 431, 432.
Planning and basic design of hydroelectric, flood control, irrigation, and multi-purpose projects involving the utilization of water resources; consideration of hydraulic and hydrologic design elements.

542. Foundation Engineering. (3:2:3) Arr. Prerequisite: C.E. 341.
Subsurface exploration, bearing capacity concepts, settlement of structures, and basic principles of foundation design.

543. Physico-Chemical Characteristics of Soils. (3:3:0) Arr. Prerequisites: Chem. 106, C.E. 341.
Physico-chemical relationships in soils, including the structures of the clay minerals, properties of the electrical double layer, ion exchange phenomena, and soil moisture movement and equilibria.

551. Sanitary Engineering. (3:2:3) F. Prerequisites: C.E. 432, Bact. 381.
Reviewing of public health engineering. Applications to design, construction, and operation of water supply and sewerage systems.

571. Engineering Ethics, Economics, and Legal Problems. (3:3:0) S.
Professional, legal, and economic problems of the engineering profession, including contracts, specification writing, and ethics. Case histories are studied as they affect the engineering profession.

602. Advanced Properties of Materials II. (3:3:0) Arr. Prerequisite: C.E. 502 or equivalent.
Topics selected from the following: analysis of stress and finite strains, theories of the mechanism of flow and fracture, theory of dislocation, creep, viscosity, visco-elastic behavior, non-Newtonian flow, theories of static and dynamic fatigue, thermo cycling, and fretting corrosion.

603. Theory of Elasticity. (3:3:0) Arr. Prerequisites: Math 321 and 322 or equivalent.
The mathematical theory of elasticity; analysis of stress and strain; generalized Hooke's Law; uniqueness theorem; special topics in elasticity.

615. Structural Dynamics. (3:3:0) S. Prerequisites: C.E. 304 and 527 or equivalent.
Matrix formulation of the free and forced, damped and undamped, lumped parameter, multiple degree-of-freedom, linear system. Approximate methods for nonlinear damped systems. Applications to elastic forced response of steel frameworks and beams subject to moving loads.

620. Advanced Structures—Theory and Design. (3:3:0) F.S. Prerequisites: C.E. 423, 424, 527.
Advanced topics in structural theory and design: arches, continuous structures on elastic supports, plastic design theory, articulated space structures.

621. Thin Shell Structures. (3:3:0) Arr. Prerequisites: C.E. 422, 424.
Theory and design methods related to domes, arches, solid plate, and hypar structures.

622. Design of Bridge Structures. (3:2:3) F. Prerequisites: C.E. 341, 422, 423, 424.
Design of bridge structures; floor systems, composite, and continuous beams and girders, trusses, piers, and abutments.

623. Advanced Concrete Design. (3:3:0) S. Prerequisites: C.E. 422 and 424.
Basic theory of prestressed concrete, pre-and post-tensioning methods, details of design and fabrication, applications to continuous structures. Yield line theory for reinforced concrete slabs. Design of folded plate structures.

625. Design of Multi-Story Structures. (3:2:3) S. Prerequisites: C.E. 341, 422, 423, 424, or consent of instructor.
Building code design criteria; dead and live loads; dynamic response to seismic and wind forces; shear wall theory and design. Analysis and design of floors, columns, frames, walls, and foundations using elastic and plastic methods.

632. Advanced Hydrology. (3:3:0) Arr. Prerequisites: C.E. 431, 432 or equivalent.
Theory application of advanced hydrologic principles to engineering design and investigations.

633. Hydraulic Design of Water Control Structures. (3:3:0) Arr. Prerequisites: C.E. 432.
Hydraulic and structural design of dams and appurtenant works and other water control structures.

641. Advanced Soil Mechanics. (3:3:0) Arr. Prerequisites: C.E. 341, 542 or equivalent.
Advanced topics in soil mechanics including stress distribution in earth masses, the shearing strength of soils, consolidation theory, settlement analysis, stability of slopes, and the bearing capacity of soils.

642. Advanced Soil Mechanics Laboratory. (2:0:6) Arr. Prerequisites: C.E. 341, 542, 641, or equivalent.
Advanced study in the techniques of laboratory investigations of soils.

643. Earth and Rock Fill Structures. (3:3:0) Arr. Prerequisite: C.E. 341 or equivalent.
Aspects associated with the design and construction of earth and rock fill dams including geological study and erection of dam-sites, location and selection of materials, seepage and pore pressure studies, interpretation and application of shearing strength data, stability analysis and the construction controls.

644. Advanced Foundation Engineering. (3:3:0) Arr. Prerequisite: C.E. 641.
Applied course in foundation engineering including techniques of subsurface investigation, determination of the allowable soil pressures for footings, and the design of spread footings, raft foundation and pile foundation for structures on clays, silts, and sand.

645. Structural Foundations. (3:3:0) Arr. Prerequisites: C.E. 422 and 542 or equivalent.
An applied course in the structural design of foundations with special emphasis on pertinent aspects of soil mechanics. Foundation types will include spread footings, combined footings, raft foundations, retaining structures, driven piles, drilled piles, caissons and cofferdams.

652. Design of Water Treatment Works. (3:3:0) Arr. Prerequisite: C.E. 551 or equivalent.
Application of principles of hydraulics, chemistry, and bacteriology in engineering analysis and design of water treatment units including mixing, flocculation, sedimentation, sterilization, and water softening.

653. Design of Sewage Treatment Works. (3:3:0) Arr. Prerequisite: C.E. 551 or equivalent.
Application of principles of hydraulics, chemistry and bacteriology in engineering analysis and design of sewage treatment units including removal, sedimentation, flotation, filtration, activated sludge, sludge digestion, and dewatering facilities.

654. Industrial Waste Treatment. (3:3:0) Arr. Prerequisite: C.E. 551 or equivalent.
Studies of basic industries and operations and waste treatment problems associated with them. Problems of treatment unit design for various types of industries.

661. Traffic Engineering—Theory of Flow and Geometric Design. (3:3:0) F. Prerequisite: C.E. 461 or equivalent.
Analysis of the basic characteristics of motor-vehicle traffic. The theory of traffic flow. Freeway operations and traffic regulations. Design of highways and parking facilities, including freeways and expressways, arterials, at-grade intersections, interchanges, channelizations, parking lots and garages.

663. Pavement Design. (3:3:0) S. Prerequisite: C.E. 461 or equivalent.
Properties of pavement components, including soils, stabilized soil, base, subbase, subgrade, and bituminous materials. Design of rigid and flexible pavements. Pavement evaluation and strengthening. Materials selection and evaluation.

691A,B,C,D. Civil Engineering Seminar. (1:1:0 ea.) F.S.

694. Selected Problems in Civil Engineering. (2:2:0) Arr.

697. Research in Civil Engineering. (2:Arr.:Arr.) F.S.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.

Clothing and Textiles

Associate Professor: Jorgensen (chairman, 3256 SFLC).

Assistant Professors: Childs, Lee, Liechty.

Instructors: Domgaard, Lind.

The clothing and textiles curriculum is designed to help the student understand clothing as it relates to the needs of individuals and families and to provide training in the apparel and textile industries. A knowledge of textiles is emphasized as an aid to wise selection and effective use and care of clothes. Expression of creative abilities is encouraged in designing, selection, and construction of clothing.

Careers open to majors in this field vary with individual aptitudes and experience and with the choice of a minor. Professional opportunities are found in demonstration work, dress designing, dressmaking, fashion illustration, fashion merchandising, fashion promotion, garment manufacturing, institutional purchasing, textile designing, textile promotion, textile testing, and theater costuming. Students are also prepared for graduate study leading to college teaching, research, and extension services.

Major Requirements

Majors are required to complete a minimum of 24 credit hours in the Clothing and Textiles Department, with at least 3 credits in each of the four areas:

Construction: Clo. and Text. 165, 235, 355, 595
Design and Selection: Clo. and Text. 110, 300, 345, 350
History and Economics: Clo. and Text. 330, 430, 472
Textiles: Clo. and Text. 260, 580, 594

For graduation from the College of Family Living, with a major in clothing and textiles, at least one course is required in each of the three supporting departments: child development and family relationships, food and nutrition, and housing and home management. Students will also complete general education requirements as prescribed by the University and 14 credit hours in a minor field of study. For graduation with a Bachelor of Arts degree, 8-12 hours of foreign language are required; for graduation with a Bachelor of Science degree, 6 hours of science are needed in addition to the general education science requirements. It is hoped that the language or science courses for these two degrees will be taken during the first two years. In meeting general education requirements, chemistry is designated for the physical sciences, psychology and economics are recommended as the social sciences, and bacteriology is suggested for the biological science. The program provides for 19-23 hours of electives.

Transfer students should complete at least 10 credit hours of work in this department to qualify for graduation.

Campus Couture, sponsored by the department, provides opportunity for practical experience in designing and constructing garments for others. Majors are strongly advised to seek employment at Campus Couture for at least one semester. Employees are selected on the basis of their performance in clothing construction and design classes.

Minor Requirements

Students who choose clothing and textiles for their minor field of study must complete 14 credit hours with at least one course in three of these areas: construction, design and selection, history and economics, and textiles. Men who desire to minor in clothing and textiles should consult the department chairman.

Suggested Minors for Clothing and Textiles Majors

Majors who are interested in costume design and illustration are advised to minor in art. Recommended courses to total 14 credit hours, four of which must be in upper division work, are: Art 120, 121, 122, 233, 250, 306, 322, 343, and 362.

Students who are primarily concerned with textile design should complete a minor in art. Suggested courses to total 14 credit hours are: Art 120, 121, 122, 233, 250, 306, 362. Four credit hours must be of upper division work.

Business management is an appropriate minor for students interested in fashion merchandising, fashion promotion, and institutional purchasing. Recommended courses are: Acctg. 201, Bus. Mgt. 347, 420, 455, and 456.

Students who combine a clothing and textiles major with a minor in communications are encouraged to elect 14 credit hours from Commun. 101, 211, 255, 330, 346, 351, and 472.

Dramatic arts is a suitable minor for students interested in theatrical costuming. Recommended courses include: Dram. Arts 123, 319, 460, 564, 565.

Other minors chosen with the approval of the adviser may be more appropriate for students with special interests.

Recommended Sequence of Courses for Majors

Freshman

	Hours
Undergrad. Relig. 121, 122	4
Engl. (determined by placement test)	6
P.E.	1
Health 130	2
Clo. & Text. 110, 165	6
Chem. 101	4
Psych. or econ.	3
Fam. liv. elective	2
Language (for B.A.), science (for B.S.) or electives	3-4
Total Hours	31-32

Sophomore

	Hours
Undergrad. relig.	4
P.E.	1
Clo. and Text. 235, 260	6
Chem. 151	5
Psych. or econ.	3
Bact. 121	3
Engl. lit.	3
Zool. 105 or Bot. 101	3
Fam. liv. elective	2-3
Language (for B.A.) or science (for B.S.)	3-4
Electives	3
Total Hours	36-38

Junior

	Hours
Undergrad. relig.	4
Hist. 170	3
Hum. & fine arts	3
Clo. & Text. 300, 330, 345, 350, 355	8-10
Credit toward minor	6
Electives	10
Total Hours	34-36

Senior

	Hours
Undergrad. relig.	4
Clo. & Text. 430, 472, 580, 594, 595	7-8
Credit toward minor	8
Fam. liv. elective	2-3
Electives	12
Total Hours	33-35

Forum and Devotional Assemblies may be added each semester for additional credit.

Courses

105. Elementary Clothing Construction. (1:1:2) F.S. Domgaard

Unit method of clothing construction applied to simply designed cotton articles. A service course for nonmajors with little or no sewing experience.

110. **Selection and Care.** (2:2:1) (m) Liechty, Lind
Design elements related to apparel selection; principles of wardrobe planning and care; personal analysis for self-improvement. Open to men and women students.

165. **Dress and Pattern Construction.** (4:2:6) F.S. (m)
Domgaard, Jorgensen, Lee, Liechty, Lind
Principles of flat pattern design, fitting, and clothing construction applied to a tailored dress and an afternoon or evening dress.

235. **Children's Clothing.** (2:1:3) F.S. (m) Prerequisite: Clo. and Text. 165.
Domgaard, Jorgensen, Lee
Selection, design, and construction of children's clothing as related to the child's developmental needs.

260. **Textiles.** (3:3:1) F.S. (m) Childs, Lee
Natural and synthetic textile fibers; yarns, fabric construction, dyes, and finishes; fundamental considerations in the purchase, use, and care of textile fabrics. Open to men and women.

300. **Clothing the Family.** (2:2:0) F.S. (m) Prerequisites: at least 3 hours in social science and one class in CDFR. Childs, Lee
Physical, social, and psychological needs related to clothing for family members at the various age levels. Coordinating family resources to solve the clothing problems of families. Open to men and women.

330. **History of Costume.** (2:2:0) F. (m) Prerequisite: some work in economics, sociology, or history. Jorgensen
Social, economic, and political influences on dress through the ages. Analysis of costume as an expression of the life of the people and as a basis for interpreting modern fashions. Open to men and women.

345. **Draping and Flat Pattern Design.** (3:2:4) F. (m) Prerequisites: Clo. and Text. 110, 165, 260. Recommended: Clo. and Text. 330. Liechty
Creative design achieved through techniques of flat pattern and draping on an individualized dress form.

350. **Costume Design.** (2:2:2) S. (m) Prerequisites: Clo. and Text. 110, 165, 330, 345.
Creative experiences in designing apparel for different production processes and price levels. Resources for inspiration explored.

355. **Tailoring.** (3:3:3) F.S. (m) Prerequisites: Clo. and Text. 165, 260. Recommended: Clo. and Text. 345. Domgaard, Liechty
Custom and commercial tailoring techniques applied to construction of coats and suits.

430. **Historic Textiles.** (2:2:0) S. (m) Prerequisite: Clo. and Text. 260. Recommended: Clo. and Text. 330. Liechty
History of the design and production of fabrics as an expression of man's cultural achievement. Open to men and women.

472. **Fashion Industry.** (2:2:0) S. (m) Prerequisites: 3 hours in clothing and textiles; 6 hours in economics, sociology, or history. Jorgensen
Development of the fashion movement—its relation to manufacturing and consumption of clothing. Garment production, fashion designers, fashion cycles, and trade organizations. Open to men and women.

580. **Advanced Textiles.** (3:3:2) S. (m) Prerequisites: Clo. and Text. 260; Chem. 101, 151 or equivalent; Bot. 101 or Zool. 105.
Fiber properties as they are related to molecular structure, morphology, and fine structure of fibers and as these affect fabric performance.

594. **Special Problems.** (1-2:Arr.:Arr.) F.S. Prerequisites: 15 semester hours in clothing and textiles and consent of instructor.

595. **Problems in Construction.** (1-2:Arr.:Arr.) F.S. Prerequisites: 15 semester hours in clothing and textiles and consent of instructor.

Communications

Professors:	Bradley, Smith.
Associate Professor:	O. S. Rich.
Assistant Professors:	J. M. Richards (chairman, F-557 HFAC), Burnett, Butterworth, McKinlay, Tarbox, Williams, Wolsey.
Instructors:	Fairbanks, R. I. Goodman.
Special Instructor:	S. J. Anderson.

The professional program in communications includes a broad base of general education, thorough orientation in the processes, functions and responsibilities of mass communication, and the development of skills in fact finding, analysis, and communication through the mass media.

The department also provides service courses to help students from other departments develop desired communication skills and, in addition, offers the following general education course in the field of humanities and fine arts: Commun. 101, "Introduction to Mass Communication."

Undergraduate concentrations leading to the degree of Bachelor of Arts are offered in the following areas: advertising, journalism, and radio-television. Courses are also offered in photocommunication and for a photography technology specialization in the two-year program of the College of Industrial and Technical Education.

Graduate studies are offered leading to the degree of Master of Arts in communications. Graduate students should consult the Graduate School Section of this catalog or the "Graduate School Catalog."

General Education

See "General Education Program" in the Student Academic Services Section of this catalog for courses which may be taken to fill prescribed areas in general education requirements for graduation. All majors should take Physics 177 (Physics of Light and Photography) as part of the general education requirement in physical science.

Communications majors are advised to obtain a broad background in the fine arts, humanities, and social sciences. Study of a foreign language for two years or more is recommended.

In filling the general education requirement in American history and government, majors should take Pol. Sci. 110 and either Hist. 121 or Econ. 274. One of these combinations of courses will serve in place of Hist. 170.

Departmental Core Curriculum

Students seeking the Bachelor of Arts degree in communications will complete 16 hours of credit in the departmental core curriculum and a minimum of 14 hours of credit in one of the following concentrations: advertising, journalism, or radio-television. The following are the core courses in communications:

Commun. 101	Introduction to Mass Communication	2 hours
Commun. 211	News Writing	3
Commun. 255	Introduction to Radio and Television	2
Commun. 307	Communications Law	3
Commun. 330	Introduction to Advertising	2
Commun. 480	History and Problems of Mass Communication	4
		16 hours

Concentration in Advertising

The concentration in advertising provides a program of studies leading to professional work in advertising agencies; advertising departments of business, manufacturing, and public institutions; and advertising and promotion functions of newspapers and broadcasting stations. In addition to the core courses, each major must complete 14 hours in prescribed or elective courses as listed below:

Commun. 331, 333, 439, 535	10 hours
Communications electives chosen in consultation with adviser	4 hours
(Total hours including core courses: 30)	14 hours

Each major in advertising must complete an approved minor of 14 credit hours in another department, plus 9 credit hours in an additional supporting field. At least one of these two fields must be selected from the following: art, business management, economics, psychology, sociology, or statistics. The other minor may also be from one of the above areas or from any other academic discipline of the University, subject to the approval of the adviser.

Concentration in Journalism (News-Editorial)

The journalism concentration is designed to prepare students for work on the news and editorial staffs of daily or weekly newspapers and press services. (Special programs will be planned for those preparing for news broadcasting or magazine staff work.) In addition to the core courses, each major must complete 14 hours in prescribed or elective courses as listed below:

Commun. 312, 323 or 495, 520	10 hours
Communications electives chosen in consultation with adviser	4 hours
(Total hours, including core courses: 30)	14 hours

Each major in journalism must complete an approved minor of 14 credit hours in another department, plus nine credit hours in an additional supporting field. At least one of these two fields must be selected from the following: economics, English, geography, history, languages, political science, or sociology.

Concentration in Radio-Television

The concentration in radio-television offers preparation for positions in commercial and educational station operation, program writing, producing, and directing. In addition to the core courses, each major must complete 14 hours in prescribed or elective courses as listed below:

Commun. 346, 340 or 351, 449	7 hours
Communications electives chosen in consultation with adviser	7 hours
(Total hours, including core courses: 30)	14 hours

Each major in radio-television must complete an approved minor of 14 hours in another department, plus nine credit hours in an additional supporting field. At least one of these two fields must be selected from the following: art, business management, dramatic arts, economics, English, psychology, sociology, speech or statistics.

Secondary School Teaching

Students who desire to prepare for journalism teaching and student publication supervision in secondary schools should complete the 30-hour teaching major in journalism (communications) and one of the teaching minors as listed in the Teacher Education Section of this catalog, along with prescribed courses in teacher education.

Those desiring to specialize in educational broadcasting should complete the same teaching major, choosing appropriate elective courses in broadcasting in consultation with their adviser.

Supplementary Information

The requirements in the concentrations listed above may be modified to allow for previous experience or individual needs upon permission of the chairman of the department.

In addition to maintaining the minimum grade-point averages required by the academic standards of the University, majors must maintain a grade-point average of 2.5 or higher in all work taken in the department. Not more than 36 credit hours in the department may be included in the undergraduate program unless the student presents more than 128 credit hours for graduation with the baccalaureate degree.

Course offerings are supported by laboratory facilities in the areas of advertising, reporting and editing, photography, and radio and television. Students in advertising and journalism have opportunity to combine their academic programs with staff assignments on the "Daily Universe," the campus newspaper. Formal course work in radio-television is supplemented by an apprenticeship program providing practical experience in broadcasting operations, and opportunities for service with the staffs of KBYU-TV and KBYU-FM.

As a link between the student's academic preparation and his professional career, professional internships are arranged for qualified seniors and graduates. In these internships supervised experience is gained on the staffs of selected newspapers, magazines, radio and television stations, and advertising agencies and offices.

The department sponsors a series of lectures on communications throughout the year to bring students in contact with leading professionals and scholars in the field of communications. Professional activities for students are fostered by departmental clubs and campus chapters of a number of national organizations, including the following: Sigma Delta Chi, professional journalistic society; Alpha Epsilon Rho, professional broadcasting fraternity; Kappa Tau Alpha, journalism scholarship society; and the Advertising Club.

Requirements for a Minor

The general minor in communications includes a minimum of 14 credit hours selected from the core curriculum and one of the concentrations listed above.

The teaching minor in journalism (communications) includes 20 credit hours and is listed in the Teacher Education Section of this catalog.

Courses

101. Introduction to Mass Communication. (2:2:0) F.S.Su. Home Study also. (G-HA)

A survey of the media of mass communication and their functions in modern society: newspapers, magazines, motion pictures, radio and television, advertising, and public relations.

211. **News Writing.** (3:2:3) F.S.Su. Home Study also. Prerequisite: Engl. 112 or equivalent or consent of instructor.
Principles of gathering, evaluating and writing news for newspapers and broadcast media; introduction to specialized forms of mass media writing.

255. **Introduction to Radio and Television.** (2:2:1) F.S.Su.
The role of radio and television in modern society. A study of influences, current practices, and social implications of the American system of broadcasting.

307. **Communications Law.** (3:3:0) F.S.Su. Home Study also. Burnett
Legal rights, privileges, and regulations of press, radio, television, and films; principles of libel, contempt, copyright, and right of privacy; decisions of regulatory bodies.

312. **News Reporting and Editing.** (4:3:4) F.S.Su. Prerequisites: Commun. 211, Indus. Ed. 250. Burnett
Evaluation of news; advanced reporting practice; copyreading; headline writing and page makup. Beat reporting and practice in headline local and wire copy for publication.

323. **Practical Reporting and Editing.** (3:1:8) F.S.Su. Prerequisite: Commun. 312.
Supervised experience in reporting, copyreading, and editing assignments on the "Daily Universe"; individual conferences with instructor.

330. **Introduction to Advertising.** (2:2:0) F.S.Su. Home Study also. Wolsey
Principles of advertising and its role in the American economy; values to advertisers and media. Newspaper, radio, and television advertising are emphasized.

331. **Advertising Copy and Layout.** (2:2:0) F.S. Prerequisites: Commun. 330, Indus. Ed. 250.
Reader interest, sales appeal, and production techniques for advertising in printed media. Students design retail and product advertisements for typical publications.

333. **Radio and Television Advertising.** (2:2:0) F.S. Prerequisites: Commun. 255, 330. Wolsey
Advertising principles for broadcast media; study of research, station coverage, and audience measurement. Writing commercials, programs, spot announcements; time buying, production, transcription, and film services.

340. **Radio and Television News.** (2:1:3) S. Prerequisites: Commun. 211, 255. Recommended: Commun. 312, 372. Bradley
News preparation and production of newscasts and public affairs programs. Consideration of interviews, documentaries, commentaries, editorials, and special events. Practical and laboratory experience provided.

346. **Radio and Television Production.** (3:2:3) F. Prerequisite: Commun. 255.
Techniques of planning and producing radio and television programs.

351. **Radio and Television Writing.** (2:2:0) F. Prerequisites: Commun. 211, 255 or consent of instructor. Williams
Study of and practice in documentary, dramatic, and continuity writing for radio and television.

352. **Radio and Television Announcing Workshop.** (1:1:0) F.S. Prerequisites Commun. 255; Dram. Arts 123 or consent of instructor. McKinlay
Survey and analysis of announcing in radio and television, and practice in presenting announcing material.

365. **Press Photography.** (2:1:3) F. Prerequisites: Physics 177 or equivalent; Art 120 or consent of instructor.
Principles of photography for newspapers and periodicals; practice in the use of professional equipment for taking and processing news and feature pictures.

366. **Advertising and Industrial Photography.** (2:1:3) S. Prerequisites: Physics 177 or equivalent, Art 120 or consent of instructor.

Instruction and laboratory practice in photography and layout for newspaper, magazine, and television advertising; industrial and business applications of photography.

367. **Portrait Photography.** (2:1:3) F. Prerequisites: Physics 177 or equivalent; Art 120 or consent of instructor.

General portrait studio and darkroom procedures with emphasis on the plastic quality of light on the human head and figure.

368. **Pictorial Photography.** (2:1:3) S. Prerequisites: Physics 177 or equivalent; Art 120 or consent of instructor.

Art composition in its application to photography. Exercises in photographing landcapes, still life, and the human figure.

371. **Introduction to the Motion Picture.** (2:2:1) F.S.Su. Prerequisite: Physics 177 or equivalent. Goodman

Introduction to documentary film theory, using films to illustrate technique and content. Overview of communication aspects of the cinema.

372. **Motion Picture Production.** (3:2:4) S. Prerequisite: Commun. 371. Goodman

Elements of silent motion picture production, including story boards, shot continuity, camera and lens utilization. Laboratory projects using 8 mm and 16 mm equipment.

377. **Secondary Teaching Procedures.** (3:3:1) F. Prerequisites: Commun. 312; Tchr. Ed. 301.

Identification of teacher and pupil activities required for conceptual learning and for each of the following types of subject matter and teaching: symbolic, performance ability, and habit. Lectures, demonstrations, and participation in noninstructional activities at a high school.

427. **Magazine Article Writing.** (2:2:0) F. Home Study also. Prerequisite: Commun. 211 or consent of instructor. Butterworth, Wolsey

Planning and writing non-fiction articles for sale to periodicals. Analysis of magazine markets, and criticism of articles written in the course.

439. **Advertising Media and Campaigns.** (3:3:0) F.S. Prerequisites: Commun. 330, 331 and 333. Wolsey

Research and planning of advertising campaigns as related to national and local objectives; media selection and budgeting; individual project in production of an advertising campaign.

449. **Radio and Television Programs and Audiences.** (2:2:0) F.Su. Home Study also. Prerequisite: Commun. 346.

Observation and analysis of basic program forms used in radio and television; examination of effective program structure and appeals; consideration of audience situation and measurement.

453. **Advanced Radio and Television Announcing Workshop.** (1:0:3) F.S. Prerequisite: Commun. 352. McKinlay

Laboratory and broadcast practice in presentation of major types of radio and television announcing materials.

456. **Television Directing Workshop.** (2:1:3) S. Prerequisite: Commun. 346. Recommended: Dram. Arts 460. Tarbox

Theories and techniques of television directing.

458. **Radio Directing Workshop.** (2:1:3) F. Prerequisite: Commun. 346.

Theories and techniques of radio directing.

480. History and Problems of Mass Communication. (4:4:0) F.S.

Development of American press, film, and broadcast media from colonial beginnings to the present; analysis of contemporary practices and problems of the mass media as social and business institutions.

491A,B. Communications Symposium. (½:1:0 ea.) F.S.

Lectures by professional communicators and specialists in communications analysis. Student research and writing projects.

495. Projects in Communication Practice. (1-4:0:5-20) F.S.Su. Prerequisites: senior standing and consent of department chairman.

Professional projects or internships for communications majors in advertising, public relations, journalism, radio, television, or photocommunications.

(Students must make application to the department chairman for assignment one semester in advance of the term during which assignment to a project is desired. Internships normally will be assigned on the block plan during the Fall or Spring Semester or during either term of Summer School.)

510. Mass Media Administration. (2:2:0) S. Prerequisites: Commun. 312, or 439, or 449. Rich

Problems or organization and administration for newspapers, magazines, radio stations, and television stations.

520. Editorial Writing and Interpreting Public Affairs. (3:2:3) S. Prerequisite: Commun. 312 or consent of instructor.

Study of the opinion and interpretative functions of the mass media of communication. Assignments in editorial writing and depth reporting.

526. School Yearbook Production. (2:2:0) Su. (Offered 1966-67 and alternate years)

Planning and supervising production of school yearbooks, including copy, illustration, layout, printing, binding, and business management.

528. Magazine Editing and Publishing. (2:2:0) S. Prerequisite: Commun. 312.

Principles of layout and design for magazines and business publications. Contemporary practices in content and production.

535. Public Relations. (3:3:0) F.S.Su. Home Study also. Prerequisite: Commun. 211 or consent of instructor. Bradley, Smith

Philosophy and practice of public relations in business, governmental, educational, and other institutions. Study of publics, media, methods, press relations, and publicity.

536. Public Relations Case Studies. (2:2:0) S. Prerequisite: Commun. 435. Bradley

Case studies in public relations. Cases are selected from a wide range of actual public relations problems which have confronted business, governmental, educational, and service institutions.

550. Problems and Practices in Educational Television and Radio. (2:2:0) S.Su. Prerequisites: advanced standing in communications or graduate education. Rich

A study of current problems and practices in the utilization and administration of television and radio in education and other noncommercial applications.

580. World Communication Channels. (2:2:0) F. Burnett

Mass communication media in principal areas of the world; problems of international communication and barriers to the flow of information between peoples.

610. Studies in Communication Theory. (3:3:0) F. Recommended: one or more courses in philosophy, psychology and sociology. Rich

A study of the historical and philosophical development of communications theory with special application to problems of the mass media.

611. Research Methods in Mass Communication. (2:2:0) F.Su. Prerequisites: Stat. 221, or Grad. Ed. 552, or Psych. 370 or Sociol. 524. Smith

Research techniques in communication fields, including readership, readability, content analysis, and audience measurement. Introduction to thesis writing.

612. Mass Communication and Society. (3:3:0) S.Su. Rich

Concepts of mass communication in contemporary society; critical evaluation of responsibilities and performance of the mass media of press, radio, television, and film.

615. Propaganda, Public Opinion, and Communications. (2:2:0) S. Smith

Roles of the mass media as channels of propaganda and influences upon public opinion. Effects of public opinion on mass communications.

630. Advertising Planning and Research. (2:2:0) S. (Offered 1966-67 and alternate years) Prerequisite: Commun. 439.

An analysis of methods employed to measure the effectiveness of advertising, with emphasis on pretesting techniques for advertising campaigns.

690. Seminar in Mass Communication. (1:1:0) F.S.Su.

691, 692. Special Studies in Communication. (1-3:Arr.:Arr. ea.) F.S.Su.

Individual work on approved problems not leading to a thesis. Projects must be approved before registration.

694. Readings in Mass Communication. (1-2:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

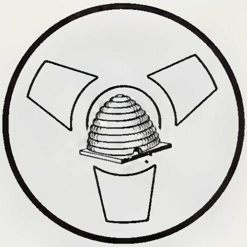
Students and instructor in communications class

Computer Science

Associate Professors: Carlson (director, C-73 ASB), Dean.

Assistant Professor: Gardner.

Instructors: Batchelor, Engstrom, Wright.



The computer science program is designed to provide the basic training in computer usage through programming. Related courses are available in business, electrical engineering, mathematics, statistics, and the Technical Institute.

Courses

201. Computers and Their Use. (2:2:0) F.S.
General introduction to computers—how they work and their use in the modern world.

☐**Engineering Technology 252. Computer Applications.** (2:2:0)

☐**Electrical Engineering 300. Computer Techniques.** ($\frac{1}{2}$:0:2)

☐**Mathematics 311. Mathematics of Digital Computers.** (3:1:6)

331. Computer Program Languages. (3:2:1) F.S. Recommended: Comput. Sci. 201, or E.E. 300, or 523, or equivalent.
Introduction to basic Fortran programming. Fundamentals of digital computer usage through programming.

☐**Accounting 355. Accounting Information Systems.** (3:3:0)

☐**Mathematics 411, 412. Numerical Analysis.** (3:3:0 ea.)

431. Algorithmic Languages and Compilers. (3:3:0) F.S. Prerequisite: Comput. Sci. 331 or equivalent.
Formal description of algorithmic languages, e.g., Fortran and the techniques used in their compilation. Study of syntax, semantics, ambiguities, procedures, replication, iteration, and recursion.

451. Information Systems Analysis. (3:3:0) F.S. Prerequisites: Comput. Sci. 331 or equivalent.
Advanced techniques of analyzing information needed to design and implement a computer processing system.

☐**Accounting 456. Electronic Computer Programming.** (3:3:1)

☐**Electrical Engineering 523. Digital Computer Engineering.** (3:2:3)

☐**Electrical Engineering 528. Analog Computer.** (2:2:0)

☐**Accounting 557. Advanced Computer Programming.** (3:1:3)

☐**Psychology 570. Computer Use in Behavioral Sciences.** (3:3:6)

☐**Electrical Engineering 623. Advanced Digital Computers.** (3:3:0)

In addition to the credit courses, there are frequent noncredit courses covering the fundamentals of the Fortran programming language. A schedule of these noncredit courses can be obtained at the Computer Research Center, C-73 ASB at the beginning of each semester.

Devotional Assemblies

Assistant Professor: Stephen R. Covey (D-364 ASB).

(An interdepartmental area only)

Throughout the history of Brigham Young University, students have been privileged to receive special visits from The General Authorities of the Church and hear messages prepared especially for them. At present, devotional assemblies are held weekly on Tuesday mornings. It is planned that during the academic year the students will have the opportunity to hear outstanding Church leaders including members of The First Presidency and The Council of the Twelve Apostles.

Credit for attendance at the weekly devotional assembly may be earned at the rate of one-half semester hour per semester, and such credit may be applied toward the requirement for religion in the following manner: Up to four hours of devotional credit may be used to fulfill the sixteen-hour religion requirement.

Courses

101, 102. Lectures in Religion. (½:1:0 ea.) F.S.Su. Guest Lecturers

201, 202. Lectures in Religion. (½:1:0 ea.) F.S.Su. Guest Lecturers

301, 302. Lectures in Religion. (½:1:0 ea.) F.S.Su. Guest Lecturers

401, 402. Lectures in Religion. (½:1:0 ea.) F.S.Su. Guest Lecturers

Dramatic Arts

Professors: Woodbury (chairman, HFAC), Gledhill, Hansen, Mitchell.

Associate Professor: Metten.

Assistant Professors: Golightly, Stewart, Struthers, Whitman.

Instructors: Henson, Warner.

Special Instructor: Faux.

The Department of Dramatic Arts and the Department of Speech are each administratively independent of the other; however, in order to more completely prepare the student for teaching in the schools and to meet the competition in professional theatre, the faculty members and courses from both departments are utilized to achieve these purposes.

The following courses are required of all majors within both the Department of Dramatic Arts and the Department of Speech:

Dram. Arts 121, 460
Speech 101, 271, 491

The High School Teacher.

Those students wishing to qualify as teachers in the high schools will complete the following courses and receive the joint recommendation of the Department of Dramatic Arts and the Department of Speech. The required courses are as follows:

	Hours
Dram. Arts 121, 123, 126, 315, 319 (320-321—2 hours), 325, 460	18
Speech 101, 111, 271 or 402, 305, 401, 491, 527	16
Total Hours	34

Additional courses recommended:
Dram. Arts 423, 564, 565.
Speech 360, 402, 524 or 525.

Teaching Minor:
Dram. Arts 121, 319, 1 hour from 320 or 321, 325, 460.
Speech 101 or 102, 111 or 305, 491, 527.

Speech 491 is required of all majors and minors in both departments and is taught Spring Semester only. Required courses may be waived only on acceptance of the student's petition by the department waiver committee.

Mask Club is sponsored by both departments to provide practical experience and participation in all of the speech arts. It is held each Monday night at 5:10 p.m. and 7:00 p.m. and on Tuesday night at 5:10 p.m. in the Nelke Experimental Theatre of the Harris Fine Arts Center.

Requirements for Minor:

The requirements for a general minor in dramatic arts and speech must be selected from the following courses:

Dram. Arts 121, 319, 1 hour from either 320 or 321, 325, 460.
Speech 101 or 102, 111 or 305, 491, 527.

The B.A. and M.A. degrees are offered by the department.

AREAS OF CONCENTRATION

Dramatic Arts	**Hours**
Basic Courses:	
Dram. Arts 121, 315, 325, 460	10
Speech 101, 401, 491	7
Requirements for specialization:	
123, 126, 319 (320, 321—2 hours), 423, 564, 565	17
Total Hours	34

Additional courses recommended:

Dram. Arts 360, 572, 573.
Speech 305, 402, 527.

Sequence of Courses

	F	S
First Year	101 (3)	121 (3)
	126 (1)	123 (3)
Second Year	315 (2)	325 (2)
Third Year	564 (3)	565 (3)
	319 (2)	527 (2)
		320, 321 (2)
		305 (3)
Fourth Year	460 (3)	491 (2)
	423 (3)	

Courses

121. **Voice, Diction and Interpretation.** (3:3:3) F.S. (G-HA m)
Practical and general course designed to improve vocal skill and oral reading. Attendance at Mask Club required.

123. **Fundamentals of Acting.** (3:3:1) F.S. Golightly, Hansen
Basic theories and techniques of acting. Attendance at Mask Club required.

126. **Makeup.** (1:1:2) F.S. Warner
Theory and practice of theatrical makeup. Attendance at Mask Club required.

315. **Introduction to the Theatre.** (2:2:1) F.S. (G-HA)
Gledhill, Metten, Woodbury
Introduces students to fundamental theories of theatre arts, develops a discriminating appreciation, and provides a basic background for those interested in theatre. Attendance at Mask Club required.

319. **Stage Craft.** (2:3:0) F.S. (m) Henson, Struthers
Theories and techniques of stage craft. Attendance at Mask Club required.

320, 321. **Stage Craft Lab.** (1-3:0:3-12 ea.) F.S. (m) Henson, Struthers
Laboratory application of theories and techniques. Attendance at Mask Club required.

325. **Advanced Interpretation.** (2:1:2) S. (m) Gledhill, Hansen
Artistic oral reading on advanced level. Emphasis on dramatic reading, humorous reading, and pantomime.

360. **Creative Dramatics in the Schools.** (2:2:0) F.S. Mitchell, Whitman
Directing for audiences of children and youth. Participation in Youtheatre productions. Attendance at Mask Club required.

412. **Religious Drama.** (2:2:0) F.S. Hansen

423. Advanced Acting. (3:3:1) S. Hansen
Theory in characterization and advanced acting techniques. Attendance at Mask Club required.

460. Theories of Directing a Play. (2:2:0) F.S. (m) Gledhill, Metten, Woodbury
Theories and techniques of directing a play. Attendance at Mask Club required.

461. Directing the One-Act Play. (1:0:3) F.S. Hansen, Metten, Woodbury

491. Senior Seminar. (2:2:1) S. Clinger, Hansen

555. Theatre Workshop. (2-4:2-4:2) Summer only. Hansen
Practical production on the graduate level. May be repeated.

564. Theatre History I. (3:3:0) F. Hansen
The development of the theatre, covering periods of primitive, Egyptian, Greek, Roman, medieval, and Elizabethan theatre.

565. Theatre History II. (3:3:0) S. Metten
The development of the theatre, covering the restoration period in England, the Western theatre in the 19th and 20th centuries, and the Oriental theatre.

572, 573. Children's Theatre. (2:2:1 ea.) F. Golightly, Mitchell
Directing for audiences of children and youth. Participation in Youtheatre productions. Attendance at Mask Club recommended.

577, 578. Playwriting. (1-2:1-2:0 ea.) F.S.

643. Methods and Problems of Research in Dramatic Arts. (2:2:0) F. Metten, Woodbury

660. Theory of Interpretation. (2:2:0) S. Gledhill, Metten

661. Oral Interpretation of Classical Literature. (2:2:0) F.S. Metten, Woodbury

662. Regional Dialects. (2:2:0) S. Clinger

663. Program Building and Lecture Recital. (2:2:0) F. Gledhill, Metten, Woodbury

667. History of Acting. (2:2:0) S. Hansen, Woodbury
Styles and theories from classical to method.

668. Special Problems in Theatre History. (1-3:1-3:0) F.S.
Oriental theatre and the free theatres of Europe.

670. Advanced Play Production—Technical. (2:2:0) S. Henson
A formal study of the "isms" from the point of view of stage design.

671. Experimental Theatre. (2:2:0) F. Hansen

672. Problems of the Producing Director. (2:2:0) F. Hansen

673. Advanced Play Production—Directing. (2:2:0) S. Hansen, Woodbury

674. Projects in Theatre. (1-4:1-4:0) F.S. Hansen, Metten, Woodbury

675, 676. Stage Design. (2:2:1 ea.) F.S. Henson

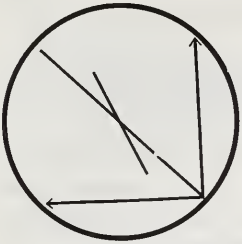
678. Stage Lighting. (1-2:1-2:0) F.S. Struthers

696. Seminar in Interpretation. (1-3:1-3:0) F.S. Gledhill, Metten

697. Seminar in Arena Theatre. (1-4:1-4:0) F.S. Hansen, Woodbury

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.

Economics



Professors: H. R. Clark, Davies, Nelson.

Associate Professors: W. Clark (chairman, 302A JKB), Doxey, Wirthlin.

Assistant Professors: Rickenbach, Wimmer.

Instructors: Parsons, Wagner, Wakefield.

The philosophy of the department is to provide a liberal background to serve as a basis for entrance into many professional areas. Thus, a minimum of special courses is required, allowing the student considerable flexibility in developing his own program.

Several programs are available to serve students majoring in economics:

1. General business economics—for students desiring to go directly into business.
2. Labor relations and labor economics—for those intending to make labor relations a profession.
3. Preprofessional economic training—for those contemplating entering law school, a graduate school of business, government service, or similar areas of study.
4. Economic theory—for students intending to do graduate work in economics or allied fields.
5. International economics—for those desiring to enter foreign service or engage in international trade.
6. Junior college teaching—for graduate students planning to teach economics in the junior colleges.

Students selecting economics as a minor subject must include Econ. 111, 112, and either 311 or 312 in the required 14 hours.

The bachelor's degree in economics is offered in both the College of Business and the College of Social Sciences.

Students registering for any course numbered 300 or above must have passed Econ. 111 and 112, or equivalent.

All students registering for any of the 500 or 600 series in economics must have passed Econ. 311 and 312 or obtain permission of the instructor. See the Department of Teacher Education for teaching majors and minors in economics.

Requirements for a Major in the College of Business

Econ. 111, 112, 274, 311, 312, 453, two of the following: 411, 412, 415; and 12 additional hours in economics courses numbered 300 or above.

Stat. 221 and one of the following: a 3-semester-hour course in Statistics or Econ. 488.

Math. 108 or Math. 111.

Math. 112 or Econ. 389 or Acctg. 332.

Bus. Mgt. 340 and 347.

Acctg. 201, 202, and 342.

Requirements for a Major in the College of Social Sciences

Econ. 111, 112, 274, 311, 312, 453; two of the following: 411, 412, 415; and 12 additional hours in economics courses numbered 300 or above.

Stat. 221 and one of the following: a 3-semester-hour course in statistics, or Econ. 488.

Math. 108 or Math. 111.

Math. 112 or Econ. 389 or Acctg. 332.

The minor requirement should include no fewer than 14 hours in a department in the College of Social Sciences.

Minors outside the College of Social Sciences, or the College of Business must be approved by the department chairman.

Courses

101. Survey of Economics. (3:3:0) F.S.Su. Home Study also. (G-SS m)
A one-semester survey course designed to familiarize students with fundamental economic principles and to develop an understanding of the critical economic problems facing America and the world today.

111. Introduction to Economic Principles and Problems. (3:3:0) F.S.Su. Home Study also. (G-SS m)
An elementary course in economic principles and problems; emphasis is placed on employment and national income analysis.

112. Introduction to Economic Principles and Problems. (3:3:0) F.S.Su. Home Study also. (G-SS m)
A continuation of Econ. 111. Emphasis is placed on the theory of price and its effect on the household, firm, and industry.

☐**Geography 231. Economic Geography.** (3:3:0)

241. Comparative Economic Systems. (3:3:0) F.S.Su. Home Study also. (G-SS m) Nelson
Analysis and critical appraisal of contemporary economic systems: capitalism, socialism, and communism.

274. Economic History of the United States. (3:3:0) F.S.Su. Home Study also. (G-SS m) Davies, Doxey

311. Income Analysis. (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111, 112 or equivalent; Math. 108 or 111 or equivalent.
Intermediate economic theory; emphasis is on national income analysis.

312. Price Analysis. (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111, 112 or equivalent.
Intermediate economic theory; emphasis is on price and distribution analysis.

358. International Trade and Finance. (3:3:0) F. (G-SS m) Prerequisites: Econ. 111, and 112, or equivalent. Doxey
An introduction to the principles and problems of international trade and finance. Special emphasis is placed on their application in the United States.

389. Introduction to the Elements of Mathematical Economics. (3:3:0) S. (m) Prerequisites: Econ. 111 and 112, Math. 105 or 111, Stat. 221, or consent of instructor.
Introduction to the mathematical tools and their application to the quantifiable, but not necessarily the quantitative elements of economic theory.

402. Real Estate and Urban Land Economics. (3:3:0) F. Home Study also. (m) Prerequisites: Econ. 111, 112 or equivalent. Nelson
Forces of demand and factors of supply of urban land as they relate to real estate credit, rents, prices, and city growth.

411. **Theory of Income, Employment and the Price Level.** (3:3:0) F. (m) Prerequisite: Econ. 311. Wirthlin

An upper-division course in economic theory with emphasis on national income analysis.

412. **Theory of Price.** (3:3:0) S. (m) Prerequisites: Econ. 312. Wirthlin

An upper-division course in economic theory with emphasis on price and distribution analysis.

415. **History of Economic Thought.** (3:3:0) F. (m) Prerequisites: Econ. 111 and 112, or equivalent. Davies

An analysis of the development of economic thought from the time of Aristotle to the present.

430. **Economic Development.** (3:3:0) S. (m) Prerequisites: Econ. 111, 112, or equivalent.

The theory and experience of achieving economic growth in both underdeveloped and developed economies is presented.

441. **Advanced Comparative Economic Systems.** (3:3:0) S. (m) Prerequisites: Econ. 111 and 112, or equivalent. Nelson

Through the use of economic models rigorous analyses of capitalism, market socialism and central planning systems are made. Emphasis is on the application of economic principles to the problems of comparative systems.

453. **Money and Banking.** (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111 and 112, or equivalent. H. R. Clark, Wimmer

Principles of money and banking as related to monetary and banking theory and policy.

461. **Labor Relations.** (3:3:0) F.S. (m) Prerequisites: Econ. 111 and 112 or equivalent. Davies

History of the labor movement, collective bargaining, and labor legislation.

462. **Economics of the Labor Market.** (3:3:0) S. (m) Prerequisites: Econ. 111, and 112, or equivalent. Davies

A study of wage theory, manpower utilization, labor market policies, and social welfare programs.

471. **European Economic History.** (3:3:0) S. (m) Prerequisites: Econ. 111 and 112, or equivalent. W. Clark

Historical development of Europe's economic institutions and their effect on the general history of that continent.

475. **Introduction to Government Finance.** (3:3:0) F. (m) Prerequisites: Econ. 312 or consent of instructor. Rickenbach, Wimmer

An analysis of the history policy and theory of public finance aimed primarily at the junior or senior student who has had a solid background in economic theory.

476. **Government and Business.** (3:3:0) S. (m) Prerequisites: Econ. 311. Rickenbach

A study of the economic implications of government regulating and shaping business policy—stabilizing policy instruments, structural and antitrust policy, and policy needs of the future.

482. **Introduction to Business Fluctuations.** (3:3:0) F. (m) Prerequisites: Econ. 111 and 112 or equivalent. Nelson

Analysis of the nature, causes, and control of business and economic fluctuations. Identification of the problems of instability as it relates to forecasting economic activity and growth of the economy.

488. **Introduction to Econometrics.** (3:3:0) F. (m) Prerequisites: Econ. 111 and 112 or equivalent; Math. 108 or 111; Stat. 221, or equivalent.

A study of the mathematical techniques and methods employed to give empirical content to the a priori reasoning in economics which is quantifiable.

☐**Agricultural Economics 525. Production Economics.** (2:2:0)

☐**Geography 533. Industrial Geography.** (3:3:0)

535. **Economic Problems of Asia.** (3:3:0) S. (m) Prerequisites: Econ. 111 and 112 or equivalent.

590. **Advanced Economic Problems.** (1-2:Arr.:Arr.) F.S.Su. Prerequisites: Econ. 111 and 112 or equivalent.

601. **Workshop on Economic Education.** (2-3:Arr.:Arr.) Su. (Continuous for three weeks.)

611. **Advanced Theory of Income, Employment and the Price Level.** (3:3:0) F. (m) Prerequisite: Econ. 411. Wirthlin

An advanced course in the theory of income and employment. Considerable emphasis will be placed on the most recent advances made in this area of study. Journal articles will be extensively used.

612. **Advanced Price Theory.** (3:3:0) S. (m) Prerequisite: Econ. 412. Wirthlin

An advanced course in price theory which will use recent journal articles as a frame of reference for discussion periods.

615. **Advanced History of Economic Thought.** (3:3:0) S. (m) Prerequisites: Econ. 415 or consent of instructor. Davies

An advanced course in the development and evolution of the theoretical and institutional tools of economic analysis.

617. **Contemporary Economic Thought.** (2:2:0) S. (m)

630. **Advanced Economic Development.** (3:3:0) S. (m) Wirthlin

658. **International Trade and Finance.** (3:3:0) F. (m) Doxey

675. **Advanced Government Finance.** (3:3:0) S. (m) Rickenbach, Wimmer

682. **Business and Economic Fluctuations.** (2:2:0) S. (m) Nelson

688. **Econometrics.** (2:2:0) S. (m) Prerequisites: Econ. 389 or Math. 112 or equivalent, Stat. 221, Econ. 312.

An advanced course in econometrics in which the use of calculus, matrix algebra, etc. is employed to analyze the quantifiable theorems of economic theory.

689. **Advanced Mathematical Economics.** (3:3:0) S. (m) Prerequisites: Econ. 311 and 312, Stat. 221, Math. 112 or equivalent, or consent of instructor.

A graduate course in the study of the application of mathematical tools to the quantifiable elements of economic theory.

691. **Seminar in Economic History.** (2:2:0) S. (m) Doxey, Wimmer

692. **Seminar in Monetary and Fiscal Policy.** (2:2:0) F. (m) Prerequisite: Econ. 311. Wimmer

693. **Seminar in Comparative Economic Systems.** (2:2:0) S. (m) Nelson

694. **Seminar in Labor Economics and Labor Relations.** (2:2:0) S. (m) Davies

696, 697. **Research.** (Arr.) F.S.Su.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.)

Electrical Engineering Science

Professor: Jonsson

Associate Professors: Losee (chairman, 175 ELB), Berrett, Clegg, Monson.

Assistant Professors: Chaston, Humpherys, Miner, Ward, Watts, Woodbury.

The Department of Electrical Engineering Science offers a professional program leading to the degrees of Bachelor of Engineering Science in electrical engineering and Master of Science. Subject fields included are communications, acoustics, analog and digital computers, solid state theory, electronics, energy conversion, systems and circuits, measurements, and automatic control. Communications includes concepts applicable to radio, television, radar, telephone, telegraphy, and audio systems; electronics includes the study of vacuum tubes, transistors and other solid state devices; energy conversion includes the study of generating equipment, motors, distribution equipment, power systems, industrial electronics, and illumination; automatic control includes servomechanisms, control devices, and system theory. The curriculum leading to the B.E.S. degree is accredited by the Engineers' Council for Professional Development (ECPD).

Engineering education at B.Y.U. places emphasis on the basic science foundations of mathematics, physics, and chemistry. This means that most of the electrical engineering courses are taught on an advanced scientific level. The student is also provided with a well-balanced program of social, religious, biological science, and humanistic studies.

The extensive background of the faculty will prove valuable to those who wish to undertake special projects in their undergraduate work or research topics in their graduate work. Seminar work and participation in technical meetings sponsored by student organizations provide a rich beginning to a professional career in electrical engineering. Professional opportunities exist in research, development, design, sales and application engineering, teaching, and business management.

Entrance Requirements

For both the general entrance requirements of the University and the particular requirements specified for the College of Physical and Engineering Sciences, see those sections of this catalog.

Grade Requirements

A cumulative average grade of "C" or better must be maintained in mathematics, in physics, and in engineering subjects. Each student's record will be reviewed periodically to ensure that this standard is maintained. No more than six credit hours of "D" credit in the Electrical Engineering Science Department will be counted toward graduation.

Course Requirements for Bachelor of Engineering Science

Engineering science students are subject to all of the general education requirements listed in this catalog, with the following exceptions and comments:

(1) The biological science requirement may be reduced to four semester hours instead of the six semester hours specified.

(2) Electrical engineering students are encouraged to take full advantage of the four hours of religion credit that may be given for attending devotional assemblies for a period of four years.

(3) It is particularly recommended that the student take Econ. 101 and Psych. 111 in satisfying the social science group requirement.

The departmental course requirements for graduation with a Bachelor of Engineering Science degree are listed as follows:

	Credit Hours
Chem. 105, 106	8
Physics 211, 212, 213, 214, 315	13
Math. 112, 113, 321, 322, 323	19
Stat. 321	2
C.E. 101, 201, 303, 304	11
Ch. E. 378	3
M.E. 301, 302	6
E.E. 100, 221, 222, 311, 312, 341, 411, 431, 432, 442, 450, 460, 461, 462, 467, 591, 592	50

Restricted electives from any of the following: 6 hrs.
Acctg. 342; Bus. Mgt. 340; Econ. 461; E.E. 511, 512, 513, 516, 517, 523, 528, 531, 532, 537, 542, 545, 550, 562, 567, 570, 598; any of the acoustics courses; Psych. 330, 336; C.E. 571; Engl. 316; Aero. Stud. 410, 411; and other approved courses in mathematics, physics, and statistics.

A student with adequate high school preparation may be excused by examination from Health 130, Hist. 170, and C.E. 101. This would reduce the minimum required course hours to 155. If a student has not had adequate preparation in mathematics to permit him to begin his college work at the level of analytical geometry and calculus (Math. 112), he will be required to take additional mathematics, including as a minimum college algebra and trigonometry (Math. 111).

With proper entrance requirements a well-qualified student can complete the Bachelor of Engineering Science program in four calendar years or the Master of Science program in five calendar years. These degrees are awarded for having attained an acceptable level of professional competence rather than for the number of years of attendance. Beginning students with inadequate high school preparation will require additional time to complete the degree requirements. A possible four-year program is shown below.

SEQUENCE OF COURSES FOR MAJORS

Bachelor of Engineering Science Program

First Year

	F	S	Su
E.E. 100	1		
E.E. 221, 222	1	1	
Math. 112, 113, 321	5	5	3
Chem. 105, 106	4	4	
Physics 211, 213		4	4
Physics 212, 214		1	1
Engl. 111	3		
Undergrad. Relig. 121, 122	2		2
Group electives		2	2
P.E.	½	½	
Dev. assy.	½	½	
Total Hours	17	18	12

Second Year

	F	S
E.E. 311, 312	5	5
E.E. 341		4
Math. 322, 323	3	3
C.E. 201, 304	3	3
Ch.E. 378	3	
Engl. 112	3	
Undergrad. relig.		2
P.E.	½	½
Dev. assy.	½	½
Total Hours	18	18

Third Year

	F	S
E.E. 431, 432	4	3
E.E. 442, 541	5	4
E.E. 450		2
E.E. 460, 461	3	3
E.E. 591		1
Physics 315	3	
Group electives	3	3
Undergrad. relig.		2
Dev. assy.	½	½
Total Hours	18½	18½

Fourth Year

	F	S
E.E. 411	2	
E.E. 462	3	
E.E. 467	2	
E.E. 592	1	
M.E. 301, 302	3	3
C.E. 303		3
Stat. 321	2	
Restricted electives	3	3
Group electives		6
Undergrad. relig.	2	2
Dev. assy.	½	½
Total Hours	18½	17½

Master of Science Requirements

The master's degree is growing in importance, particularly in the research and development oriented areas of the electrical engineering profession. Each student is therefore encouraged to consider continuing to the Master of Science degree. The following is a listing of requirements for the Master of Science degree in electrical engineering:

	Hours
E.E. 513	3
Major technical electives	15
Thesis	6
Math.	6
Total	30

Undergraduate students electing the Master of Science program may commence earning graduate credit during the last year of undergraduate work. At this time E.E. 513 should be taken as a restricted elective. The second restricted elective should be related to the student's specialty field. E.E. 513 may then be counted for graduate credit. Both bachelor's and master's degrees will be granted as the specific requirements are fulfilled.

A student must formally apply for admission to the Graduate School to pursue the Master of Science degree. The graduate catalog contains details of Graduate School requirements.

Sequence of Courses

Upon registration, or when otherwise requested, each undergraduate student will be supplied with a suggested sequence of courses based upon his prior preparation and particular needs. Adjustments can be made as necessary during his program in consultation with his adviser. Engineering students may register for up to 18 hours exclusive of physical education and forum and devotional assemblies in any one semester without obtaining special permission from the dean of the college.

Courses

100. Introduction to Electrical Engineering. (1:1:0) F.
Introduction to the fields and profession of electrical engineering. Study of elementary engineering problems. Slide rule techniques.

221, 222. Numerical Solutions in Electrical Engineering. (1:1:0 ea.) F.S. Prerequisite: Previous or concurrent registration in Math. 112.
Beginning Fortran programming and the numerical solutions of elementary electrical engineering problems.

301. Elements of Electrical Engineering. (2:2:0) F.S. Prerequisites: Physics 213, Math. 321, concurrent registration in Math. 322.
For students not majoring in electrical engineering. Study of linear electrical circuits based on Laplace transforms.

302. Elements of Electrical Engineering. (2:2:0) F. Prerequisite: E.E. 301.
Study of polyphase circuits, magnetic circuits, DC and AC machines, and transformers.

303. Elements of Electrical Engineering Laboratory. (1:0:3) F. Prerequisite: concurrent registration in E.E. 302.

A series of energy conversion experiments designed to parallel E.E. 302.

304. Elements of Electrical Engineering. (2:2:0) S. Prerequisite: E.E. 301.

Study of solid state and vacuum tube circuits.

305. Elements of Electrical Engineering Laboratory. (1:0:3) S. Prerequisite: concurrent registration in E.E. 304.

A series of laboratory experiments related to solid state devices, vacuum tubes, and instrumentation circuits designed to parallel E.E. 304.

306. Analog Computer Techniques. (½:0:2) F.S. Prerequisites: Physics 213, Math. 321.

Offered on the block plan each block. An introduction to the simulation of engineering problems on an analog computer.

307. Digital Computer Techniques. (½:0:2) F.S. Prerequisites: Physics 213, Math. 321.

Offered on the block plan each block. An introduction to digital computer programming and techniques.

311, 312. Linear Circuit Analysis. (5:4:3 ea.) F.S. Prerequisites: Physics 213; Math. 321; concurrent registration in Math. 322, 323.

Transient and steady-state analysis of linear circuits based on complex variables and Laplace transforms.

341. Electronic Circuits and Devices I. (4:3:3:) S. Prerequisite: E.E. 311.

The physical characteristics of solid state devices and tubes with selected applications.

411. Feedback Concepts. (2:2:0) F. Prerequisites: C.E. 304 or 302; Math. 323, and either (a) E.E. 432 and E.E. 442 or (b) E.E. 302 and 304.

Consideration of basic feedback concepts as applied to engineering systems. Root-locus, log magnitude, and phase criteria are presented as useful tools for analysis and design.

431, 432. Electrical Energy Conversion. (4:4:0, 3:2:3) F.S. Prerequisite: E.E. 312.

Magnetic circuits and magnetic amplifiers, single phase and polyphase transformers; energy conversion principles, DC and AC motors and generators; control system components.

442. Electronic Circuits and Devices II. (5:4:3) F. Prerequisite: E.E. 341.

Applications of solid state devices and vacuum tubes.

450. Electrical Properties of Materials. (2:2:0) S. Prerequisite: E.E. 442.

Electrical properties of crystalline solids.

460, 461. Electromagnetics. (3:3:0 ea.) F.S. Prerequisite: Math. 323.

Classical static and dynamic electricity and magnetism; Maxwell's equations and their applications in electromagnetic engineering; antennas.

462. Communication Circuits. (3:3:0) F. Prerequisites: E.E. 541, and concurrent registration in E.E. 467.

Circuits and systems used in radio, television, and radar including microwave hardware and network theory.

467. Communications Laboratory. (2:0:6) F. Prerequisite: concurrent registration in E.E. 462.

Devoted to building and testing circuits studied and designed in E.E. 462.

511, 512. Network Synthesis. (3:3:0 ea.) F.S. Prerequisites: E.E. 312, 442.

Approaches to the design of 2-terminal and 4-terminal networks. Means of meeting insertion loss and phase shift requirements.

513. Linear Systems. (3:3:0) F. Prerequisite: graduate standing or consent of instructor.

State-space and transform techniques in the analysis of linear systems.

516. Servomechanisms. (3:3:0) Arr. Prerequisite: E.E. 411.
Application of design principles, carrier systems, component description and specification, multiloop problems including signal flow graphs and synthesis.

517. Digital and Sampled-data Control Systems. (3:3:0) Arr. Prerequisite: E.E. 411.
Basic theory and techniques for the analysis and design of digital and sampled-data control systems and related problems based on the Z-transform method.

523. Digital Computer Design. (3:3:0) F. Prerequisite: E.E. 222.
The operation and logical design of digital computers.

528. Analog Computer Design. (2:2:0) Arr. Prerequisite: E.E. 304 or 442.
Theory and operation of summing, integrating, and differentiating circuits; function generators and operational amplifiers and their applications to analog computers.

531. Electric Power Systems I. (2:2:0) Arr. Prerequisite: E.E. 432.
The fundamentals of electrical power systems, generalized circuit constants, symmetrical components, and fault studies.

532. Electric Power Systems II. (3:3:0) Arr. Prerequisite: E.E. 531.
Characteristics of electric power system components, additional fault study considerations, introduction to power system stability, DC transmission.

537. Advanced Control Machinery Laboratory. (1:0:3) S. Prerequisite: E.E. 411.
This course constitutes a block of experiments in the area of machinery control systems, machinery characteristics, and power distribution methods.

541. Switching, Timing, and Pulse Circuits. (4:3:3) S. Prerequisite: E.E. 442.
Passive and active circuits utilizing tubes, transistors, diodes, and other devices.

542. Advanced Switching, Timing and Pulse Circuits. (3:3:0) F. Prerequisite: E.E. 541.
Consideration is given to switching, memory, shaping and generating circuits employing nonlinear, lumped parameters.

550. Solid State Electricity. (4:4:0) F. Prerequisites: Ch.E. 378, Physics 315, Math. 323, E.E. 541.
Physical properties of crystalline solids, lattice vibration and energy dielectrics, conduction, band theory, semiconductors, emission, magnetism, resonance, and relaxation phenomenon.

562, 563. Advanced Communications Theory. (3:3:0 ea.) F.S. Prerequisite: E.E. 462.
Transmission through electric networks, periodic sampling, pulse modulation, analysis of information—transmission systems, and noise considerations.

567. Advanced Communications and Electronics Laboratory. (1:0:3) S. Prerequisite: E.E. 462.
This course constitutes a block of experiments in the area of U.H.F. techniques, electronic circuits, communication systems, pulse forming networks, transmission lines and filters.

570. Illumination. (2:2:0) Arr. Prerequisites: E.E. 312, 341.
Principles and design of artificial illumination for various applications; lamp characteristics; measurements; costs.

580. Elements of Acoustics. (2:2:0) Arr. Prerequisite: E.E. 312.
Fundamentals of sound production, transmission, and reception with an introduction into sound application in public address and other engineering systems.

581. Psycho-Acoustics. (5:5:0) Arr. Prerequisite: E.E. 442.
Speech and hearing from a communication engineering viewpoint. Analysis of speech and hearing processes is developed. Known experimental facts about speech and hearing are systematically studied and compared with calculated results. Methods of calculating and measuring articulation index of talker-listener pair when using any specified type of communication system.

584, 585. Advanced Musical Acoustics. (2:2:0 ea.) Arr. Prerequisites: Physics 561, 562, or E.E. 580.
Technical study of acoustical behavior of different musical instruments; consideration of sound power output of single instruments and ensembles; stereophonic reproduction of music; possibilities of electronic musical instruments.

587. Architectural Acoustics. (3:3:0) Arr. Prerequisites: Physics 561, 562 or E.E. 580.
Fundamental behavior of sound in rooms; effects of shape and size on perception of speech and music; proper use of public address and sound reinforcing systems, sound absorption and insulation properties of different kinds of room walls; kind and amounts of sound absorption materials to use in sound treatment of rooms and auditoriums.

591, 592. Seminar and Field Trips. (1:2:0 ea.) F.S. Prerequisite: E.E. 442.
Student and faculty presentation of special topics and subjects of current interest; visits to industries displaying varied types of engineering applications. Participation on the annual field trip is required.

598A,B,C,D. Special Problems and Topics. (1-2:Arr.:Arr. ea.) S.Su. Prerequisite: consent of instructor.
Registration by permission of professor sponsoring problem.

618. Nonlinear Analysis. (3:3:0) F. Prerequisite: E.E. 411.
Consideration of nonlinear differential equations; problems of discrete systems, design in the phase plane; adaptive control systems; dynamic programming.

619. Nondeterministic Control Systems. (3:3:0) S. Prerequisite: E.E. 411.
Statistical design principles, decision theory, competitive situation, queuing systems, and linear programming as applied to control systems.

623. Advanced Digital Computers. (3:3:0) S. Prerequisite: E.E. 523.
Advanced theory and operation of digital computers and their design and application to engineering, scientific, and control systems.

645, 646. Microwave Devices. (3:3:0 ea.) F.S. Prerequisite: E.E. 461.
Consideration is given electron beam and solid state devices which operate at microwave frequencies.

661, 662. Advanced Electromagnetic Fields. (3:3:0 ea.) F.S. Prerequisite: E.E. 461.
A study of the methods of solution of electromagnetic field problems including wave propagation, waveguides, cavities, slow wave structures, plasmas, antennas and field-related devices.

697. Master's Candidate Research. (1-4:Arr.:Arr.) F.S.
Master's candidate research not associated with thesis.

698. Readings and Seminar. (1:1:0) Arr. Prerequisite: graduate standing.
Presentation of literature studies or research results by graduate student or faculty. Unrelated to the master's thesis.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) Arr. Prerequisite: graduate standing.
This course is intended to include all work related to the master's thesis, i.e., literature study, research, and writing.

English

Professors: West (chairman, 357 McKay), Britsch, B. Clark, M. Clark, Cheney, Christensen, Farnsworth, Hart, Jacobs, Larson, Spears, Thomson, Young.

Associate Professors: Brady, Calder, Carroll, Ellsworth, Gassman, Tanner.

Assistant Professors: Alder, Cox, Craig, Esplin, Evans, Grass, J. B. Harris, J. S. Harris, Madsen, McKellar, McKendrick, Mitchell, Morrell, Olson, Smart, J. Thomas, R. Thomas, Waterstradt, Williams.

Instructors: Ballantyne, Bell, Bennion, B. Best, L. Best, Blanch, Cracroft, Davis, Derrick, Goff, Hall, Hayes, Herndon, Hill, Horton, Howe, Hunsaker, Lambert, MacKay, McNeil, Nielsen, Parker, Ream, Ridenhour, Tate, C. Taylor, J. Taylor, Thayer, Wahlquist, Wight, Wilson.

Special Instructors: Halgren, M. Smith, T. Wood.

Freshman English

(Soren Cox, coordinator)

All students are required to take freshman composition during both semesters of the freshman year unless they are excused by the dean of the college in which they are registered and the coordinator of freshman English.

Placement Test. Freshmen are assigned to English classes on the basis of performance on the American College Test.

Freshman Composition. To satisfy the University requirement for freshman composition, all students must complete one of the following sequences: Engl. 111 (or 110), 112; or Engl. 115, 116. Students who demonstrate a need for remedial work take Engl. 110, 112; students who demonstrate satisfactory ability take Engl. 111, 112; students who demonstrate exceptional ability take Engl. 115, 116; students in the Honors Program take Engl. 115, 116.

Requirements for an English Major

All students majoring in English should complete at least thirty-five semester hours in English beyond freshman composition. The following program is prescribed:

		Hours
A.	Engl. 251. Fundamentals of Literature	3
B.	Engl. 221. English Grammar or Engl. 321. Advanced Study in English Grammars	3
C.	Engl. 361 or 362. American Literature	4
D.	Engl. 371 or 372 or 373. Early English Literature	3-4
E.	Engl. 374 or 375. Later English Literature	4

F.	Engl. 382 or 582. Shakespeare	3
G.	Engl. 490. Senior Seminar for English Majors	2

H. At least two courses selected from the following: Engl. 332, 333, 335, 336, 338, 341, 342, 343, 350, 355, 356, 359, 366, 367, 380, 381, 420, 450, 512.

I. Sufficient additional courses chosen in consultation with the student's departmental adviser to bring the total in English to at least thirty-five semester hours. (Note: All English courses numbered in the 300, 400, and 500 levels may be counted toward the thirty-five hour total except Engl. 377 and 479, which count as education courses; but only the following courses numbered below 300 may be counted: Engl. 215, 218, 221, 251.) No more than six credit hours in writing courses beyond freshman English (Engl. 215, 218, 316, 318, 319, 518) may be counted toward filling the 35 hours required for an English major. An English major who elects an undergraduate emphasis in the English language may, with the approval of his adviser, choose courses in linguistics from the Linguistics Section of the catalog to fill the additional courses prescribed by this section (I).

The program for English majors is sufficiently flexible that a student not only may elect a traditional emphasis in English literature, but, if he chooses, may emphasize American literature or contemporary literature and creative writing or comparative literature or English language. A booklet entitled "The English Major at B.Y.U." outlining these programs is available on request.

The department provides a minimum reading list which the English major should obtain and begin to employ early in his academic program. During the semester prior to his graduation, he will be given a departmental examination based on the reading list, the senior seminar, and his over-all major program.

In addition to the requirements listed above, each English major is expected to complete at least six to eight hours of one foreign language. (Only those language courses numbered 102 and above, or equivalent courses at other universities, will apply toward fulfilling this requirement). All graduating English majors will be awarded the Bachelor of Arts degree.

Recommended Supporting Courses for English Majors

Although nearly all scholarly disciplines can contribute importantly to the intellectual background which an English major should acquire, certain courses taught in other departments have particular values for English majors. Usually these courses can be chosen to fill a student's general education group requirements without increasing his over-all requirements for graduation. The following courses are some of those which are strongly recommended by the English Department:

Hist. 335. England
Dram. Arts 121. Voice, Diction, and Interpretation
Dram. Arts 325. Advanced Interpretation
Phil. 380. Survey of Philosophy
Phil. 476. Contemporary Continental Philosophy

Students should consult with their advisers about other courses which would be particularly beneficial in supporting their individual programs for the English major.

Requirements for a Teaching Major in English

The requirements for a teaching major in English and for the regular major are exactly the same except that the student completing a teaching major should take the courses required for teacher certification as outlined by the College of Education.

English is one of the subjects comprising the composite major in language arts designed for prospective teachers. (See College of Education.)

Recommendation on a Minor to Be Selected by English Majors

English teaching majors must complete a teaching minor consisting of 16 or more hours of designated courses in a subject also taught in the secondary schools of Utah and approved by the College of Education. For further information, see Teacher Education.

In filling the University requirement for a minor, an English major who is not a teaching major may complete a regular departmental minor in any department of the College of Humanities, the College of Social Sciences, or the College of Fine Arts and Communications, or in philosophy or library science. Any exceptions in the minor program for English majors must be approved by the student's adviser and the chairman of the English Department.

Requirements for a Minor in English

Students planning a teaching minor in English should complete Engl. 221 or 321, 275, 360, 370, and sufficient electives to make the total work in English beyond freshman composition at least twenty semester hours. Other students minoring in English may select from the courses approved for a minor any combination of courses totaling at least fourteen semester hours beyond freshman composition. Such courses should be selected in consultation with the student's major department adviser and, if desired, a member of the English Department faculty.

Graduate Work in English

For qualified students seeking the M.A. degree in English, attractive scholarships, fellowships, and part-time teaching assistantships are available. Inquiries regarding these should be addressed to the chairman of the English Department.

A graduate student may major in either English or American literature; he may minor in a subject outside the English Department such as linguistics, or in English literature, American literature, comparative literature, or English language. In addition, he should complete the University requirements for the Master of Arts degree, which is the only graduate degree offered in the English Department. He should have reading proficiency in at least one foreign language, preferably French or German.

Among the thirty hours required for a Master of Arts degree, each student must take the following courses:

			Hours
A.	Engl. 615.	Bibliography and Methods of Research	2
B.	Engl. 624.	Old English	3

The following courses should also be included if the student did not have such courses as an undergraduate:

A.	Engl. 421.	The History of the English Language	3
B.	Engl. 450 or 650.	Literary Criticism	3

In fulfilling the thesis requirements for a master's degree in English, a student may select any one of the following three options:

(1) One long thesis on a topic demanding research, criticism, or both;
(2) Three long papers written in three different areas of English or American language or literature and on topics demanding research, criticism, or both;
(3) Two long papers written in two different areas of English or American language or literature and on topics demanding research, criticism, or both; and one long paper in the area of imaginative writing.

The work done under any of the above three options is under the direction of the student's advisory committee and must fulfill all of the requirements of form, date of submission, and binding that apply to a regular master's thesis.

The department stipulates that two hours of "B" grade or better in the series of Engl. 318, 319, or 518, or the equivalent directed experience in writing, be regarded as prerequisite for application to use imaginative writing as part of option (3) listed above. With this application, the student must forward to the graduate committee in English samples of his best writing in order that the committee may determine whether he is qualified to use imaginative writing as part of his thesis requirement.

General Education Courses in Literature

An undergraduate student filling his general education requirement in the humanities and fine arts area may take any literature course for which he has the proper background and prerequisites. See also Humanities.

Courses

10. **Preparatory English.** (0:2:0) F.S. Cox
Drill in essentials of English for students not prepared for Engl. 110 or 111.

15. **Remedial English for Juniors.** (0:3 for ½ semester:0) F.S.Su. Home Study also. J. S. Harris
Intensive review of the essentials of composition for students who have failed the Junior English Proficiency Examination. (Fee $15.00)

99. **Problems in Thesis Writing.** (0:2:0) F.S.Su. Evans
Composition course designed specifically for the writer of a thesis or other graduate paper, with emphasis on organization, sentence structure, correctness, and preciseness.

101. **English as a Second Language.** (3:5:5) F.S. Young
Designed to develop proficiency in English as a second language. Reading review of major constructions; intonation, pattern drills. Goal: the use of English in free composition. (Completion of Engl. 101 and 102 will satisfy the requirement for credit in freshman English.)

102. **English as a Second Language (Composition).** (3:3:3) F.S. Young

110. **Composition and Reading.** (3:5:0) F.S. Cox
Same course and credit as Engl. 111, but meets two additional days a week for the first half of the semester. For students who need special help in freshman composition.

111, 112. **Composition and Reading.** (3:3:0 ea.) F.S.Su. Home Study also. Cox
Course in reading and writing designed for development of skills of effective writing, of critical awareness of the resources of the language, and of skill in reading rapidly and critically. Review of grammar, readings, weekly themes, and long library paper.

115, 116. **Composition and Reading.** (3:3:0 ea.) F.S. Cox
Alternate course to Engl. 111, 112 designed for students who show superior ability and training in composition.

215. **Expository Writing.** (2:2:0) F.S. (m) Prerequisite: Engl. 112 or 116. Hill
Basic composition course intended to develop clarity, precision, and style in factual writing.

218. **Creative Writing.** (2:2:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 112 or 116. Bell, Hill, Thayer
Composition course intended to develop expressive skill and power through writing of short stories, poems, dramas, and/or informal essays.

221. **English Grammar.** (3:3:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 112 or 116. West

225. **Vocabulary Building.** (2:2:0) F.S.Su. Home Study also. (m) Horton, Wahlquist
Service course intended to develop an effective vocabulary through study of prefixes, suffixes, and roots.

250. Introduction to Literature. (3:3:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 112 or 116. Howe

Various types of literature—short story and novel, poetry, essay, biography, and drama—with a critical reading and analysis of significant examples of each type.

251. Fundamentals of Literature. (3:3:0) F.S.Su. Home Study also. Prerequisite: Engl. 112 or 116. M. Clark

Basic course in literary appreciation and criticism, literary terminology, and interpretive writing. Required of all English majors and recommended for humanities majors and for students in the Honors Program. Should be taken in the sophomore year.

252. Introduction to Poetry. (2:2:0) F.S. (G-HA m) Evans, Hart, Larson

Appreciation course in poetry, emphasizing critical reading and analysis of significant poems of various types.

253. Introduction to Drama. (2:2:0) F.S. (G-HA m) Craig, Waterstradt

Appreciation course in drama, with attention given to various forms—tragedy, comedy, farce, melodrama, and modern problem play—and with a critical reading of famous examples of each type.

254. Introduction to Biography. (2:2:0) S. (G-HA m) Young

Short biographies of some famous statesmen, patriots, adventurers, scientists, inventors, painters, writers, and others, including Hitler, Napoleon III, George III, Edison, Wilson, Jefferson, Lincoln, Goethe, Gaugin, the Curies, John Brown, and Dolly Madison.

256x. Classic Myths. (3) Home Study only. Carroll

The characters and stories in classical mythology in their relationship to literature and to modern culture and life.

260. Masterpieces of American Literature. (3:3:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 112 or 116. Cracroft

Selected readings in American literature from colonial times to the present.

270. Masterpieces of English Literature. (3:3:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 112 or 116. Gassman

Selected readings in English literature from medieval times to the present.

275. English Literature I: From Beowulf through Shakespeare. (5:5:0) F.S.Su. (m) **Intended for English Teaching Minors.** Prerequisite: Engl. 112 or 116. Waterstradt

Introduction to literary criticism—principles of analysis, interpretation, and evaluation—followed by a critical study of English literature from Beowulf through Shakespeare. Language development and interpretive composition also emphasized.

282. Shakespeare. (2:2:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 112 or 116. Grass

Appreciation course in Shakespeare, with an interpretive reading of about eight of his great dramas.

315. Advanced Expository Writing. (2:2:0) F.S. (m) Prerequisite: Engl. 215 or consent of instructor. Hart, Hill

Advanced composition course designed for students who wish to extend and refine their skills in factual writing.

316. Technical Writing. (2:2:0) F.S. (m) Prerequisite: Engl. 112 or 116. J. S. Harris

Composition course intended to develop accuracy and skill in writing scientific pamphlets, articles, reports, and memoranda.

318. Writing of Fiction. (2:2:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 218 or consent of instructor. Larson

Special development in the creation of style and technique in prose fiction; the discipline and practice of the writer; individual consultation.

319. Writing of Poetry. (2:2:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 218 or consent of instructor. Larson

Special development in the creation of style and technique in poetry; the discipline and practice of the poet; individual consultation.

321. Advanced Study in English Grammars. (3:3:0) F.S.Su. Prerequisite: Engl. 221 or consent of instructor. Alder, Cox, Madsen

A basic course in modern grammars of English—descriptive, structural, and transformational—with study of the linguistic principles which support these applications of language study.

325. Introduction to Linguistics. (2:2:0) S. (m)

For course description see Linguistics 325, under Department of Languages. Registration may be for linguistics, English, or anthropology credit. See the Linguistics Section of the catalog for additional courses in linguistics.

332. The English Novel from Defoe through Dickens. (3:3:0) F.S. Home Study also. (G-HA m) Brady, Gassman

English prose fiction from the beginnings to the mid-nineteenth century, with emphasis on Defoe, Richardson, Fielding, Smollett, Sterne, Scott, Austen, Trollope, Thackeray, the Brontës, and Dickens.

333. The Modern English Novel. (3:3:0) F.S. Home Study also (G-HA m) Brady, B. Clark

The English novel from the mid-nineteenth century to the present, with emphasis on George Eliot, Meredith, Hardy, Conrad, Bennett, Galsworthy, Lawrence, Maugham, Joyce, Woolf, Huxley, and several contemporary novelists.

335. The American Novel to Dreiser. (2:2:0) F.S. Home Study also. (G-HA m) Jacobs, Thomson

Nineteenth century American novelists, with emphasis on Cooper, Hawthorne, Melville, Twain, Howells, and James.

336. The Modern American Novel. (2:2:0) F.S. Home Study also. (G-HA m) M. Clark

Twentieth century American novelists, with emphasis on Dreiser, Cather, Lewis, Hemingway, Faulkner, Steinbeck, Wolfe, Fitzgerald, Dos Passos, and Warren.

338. The European Novel. (3:3:0) F. (G-HA m) M. Clark, Jacobs

The works of the principal European novelists, including Cervantes, Flaubert, Zola, Turgenev, Dostoevsky, Tolstoy, Mann, Kafka, and others.

341. English Drama to 1642. (2:2:0) F. (G-HA m) Craig

Religious drama of the Middle Ages, court plays, and popular drama of the Renaissance, excluding Shakespeare.

342. Restoration and Eighteenth Century Drama. (2:2:0) S. (G-HA m) Craig, Gassman

English drama from 1660 to 1800, with emphasis on high comedy, sentimental comedy, and heroic tragedy.

343. Modern English and American Drama. (2:2:0) F.S. (G-HA m) Craig, Waterstradt

Major English and American dramatists since 1890.

346x. Greek Life and Drama. (2) Home Study only. Carroll

Ancient Greek mythology and civilization and selected dramas by Aeschylus, Sophocles, Euripides, and Aristophanes.

350. The Bible as Literature. (2:2:0) F.S.Su. Home Study also. (G-HA m) Ellsworth, Olson, R. Thomas

355. World Classics. (3:3:0) F.S.Su. (G-HA m) Britsch, Craig

Greek and Roman epic and drama and European classics of the Middle Ages and Renaissance, in translation, with emphasis on Homer, Aeschylus, Sophocles, Euripides, Virgil, and Dante.

356. World Classics. (3:3:0) F.S.Su. (G-HA m) Britsch, Thomson

European masterpieces of neoclassicism, romanticism, realism, naturalism, and symbolism in translation.

359. The Short Story. (2:2:0) F.S.Su. Home Study also. (G-HA m) Cheney

Critical study of selected great short stories—American, English, and European—with emphasis on 20th century stories.

360. American Literature from the Beginnings to the Present. (4:4:0) F.S.Su. (G-HA m) **Intended for English Teaching Minors.** Prerequisites: Engl. 112 or 116 and 275. Evans, McKellar

Critical study of American literature from colonial times to the present, emphasizing major literary works and affording practice in interpretive writing.

361. Early American Literature. (4:4:0) F.S.Su. (G-HA m) Jacobs, Thomson, Williams, G. Wood

From the beginnings through writers of the mid-nineteenth century.

362. Later Nineteenth Century American Literature. (4:4:0) F.S.Su. (G-HA m) Ellsworth, Jacobs, R. Thomas, Thomson

From the mid-nineteenth century to the end of the century.

366. Modern Poetry. (2:2:0) S. Home Study also. (G-HA m) Hart, Larson

Major English and American poets of the 20th century. May not be taken for credit by students who have had Engl. 380.

367. English and American Folk Ballads. (2:2:0) F. (G-HA m) Cheney

English and Scottish ballads and American folk songs.

370. English Literature II: From Donne through Eliot. (5:5:0) F.S.Su. (G-HA m) **Intended for English Teaching Minors.** Prerequisites: Engl. 112 or 116 and 275. Waterstradt

A critical study of English literature from John Donne through T. S. Eliot, emphasizing the major works of major authors. Language development and interpretive composition also emphasized.

371. English Literature to 1500: the Medieval Period. (3:3:0) F.S.Su. (G-HA m) McKendrick

English literature from its beginnings to 1500, with emphasis on its relationship to other European literature.

372. English Literature from 1500 to 1660: the Renaissance Period. (4:4:0) F.S.Su. (G-HA m) Larson, J. Thomas, G. Wood, Young

English drama, poetry, and prose of the Renaissance Period, including Milton but excluding Shakespeare.

373. English Literature from 1660 to 1780: the Classical Period. (4:4:0) F.S.Su. (G-HA m) Craig, Gassman, Hart

English literature from the Restoration through the Augustan Age of Reason to the beginnings of Romanticism, including works of Defoe, Swift, Fielding, Dryden, Pope, and Johnson.

374. English Literature from 1780 to 1832: the Romantic Period. (4:4:0) F.S.Su. Home Study also. (G-HA m) Cheney, B. Clark, J. B. Harris

English literature of the Age of Romanticism, including works of Burns, Blake, Wordsworth, Coleridge, Scott, Lamb, Byron, Shelley, Keats, and the Brontës.

375. English Literature from 1832 to 1900: the Victorian Period. (4:4:0) F.S.Su. (G-HA m) Brady, Britsch, B. Clark, Farnsworth
English literature of the middle and later 19th century, including works of Carlyle, Ruskin, Tennyson, Browning, Arnold, Dickens, Thackeray, George Eliot, the Rossettis, Fitzgerald, Morris, Swinburne, Meredith, Hopkins, Wilde, Hardy, and Housman.

377. Secondary Teaching Procedures. (3:3:3) F.S. Prerequisites: Engl. 221 or 321, 251 or 275 and Tchr. Ed. 301. Madsen, West
For course description and fee, see Tchr. Ed. 377.

380. Twentieth Century Literature. (5:5:0) F.S.Su. (G-HA m) M. Clark, Hart, Larson
American, English, and some continental literature, with emphasis on American. May not be taken for credit by students who have had Engl. 366.

381. Chaucer. (3:3:0) S. (G-HA m) McKendrick

382. Shakespeare. (3:3:0) F.S.Su. (G-HA m) Farnsworth, Hart, Young
From six to eight major plays studied intensively.

420. Literature for Adolescents. (2:2:0) S.Su. (m) Hayes
Critical examination of the body of literature written for adolescent readers and of effective methods of teaching literature in the secondary schools. Intended especially for English teaching majors and minors.

421. History of the English Language. (3:3:0) F.Su. (m) Cox, McKendrick
Descriptive study of the English language in the various stages of its development, with background of related historical events.

426. Semantics. (2:2:0) F. (m) Evans
An introduction to general semantics, with particular focus on the way in which words influence thought and behavior.

450. The Criticism and Appreciation of Literature. (3:3:0) S.Su. (m) R. Thomas
Critical theories and standards of value.

479. Secondary Student Teaching. (4-8:1:20-40) F.S. Prerequisite: Engl. 377. West
For course description and fee, see Tchr. Ed. 479.

490. Senior Seminar for English Majors. (2:2:0) F.S.Su. M. Clark

495. Individual Readings. (1-2:2-8:0) F.S.Su.
Available only on approval of the student's adviser to English majors and to students on foreign tours.

500A,B,C,D, etc. Eminent American Writers. (1:1:0 ea.) F.S.Su.
Different writers are treated each semester in this series.

510A,B,C,D, etc. Eminent English Writers. (1:1:0 ea.) F.S.Su.
Different writers are treated each semester in this series.

512. Milton. (2:2:0) F.
A study of the poetry and prose of John Milton.

518A,B,C,D. Advanced Creative Writing. (2:2:0 ea.) F.S. Prerequisite: Engl. 318 or 319 or consent of instructor. Larson
A seminar in the writing of fiction, poetry, drama, and the essay; individual consideration of manuscripts; professional orientation. May be repeated for credit with the consent of the instructor.

529. Structure of American English. (3:3:0) F.Su. Cox
Application of the methods of linguistic science to the description of the phonology, morphology, and syntax of American English.

572. **European Literature of the Renaissance.** (3:3:0) F. (Not offered 1967-68) Evans, Spears
A comparative study of continental European literature of the Renaissance in its relations to English literature.

573. **European Literature of the 17th and 18th Centuries.** (3:3:0) S. (Not offered 1967-68) Evans, Spears
A comparative study of continental European literature of the 17th and 18th centuries in its relations to English literature.

574. **European Literature from 1760 to 1850.** (3:3:0) F. (Not offered 1966-67) Farnsworth, Spears
A comparative study of the romantic movements in England, Germany, France, Spain, and Italy.

575. **European Literature from 1832 to 1914.** (3:3:0) S. (Not offered 1966-67) Farnsworth, Spears
A comparative study of English, German, French, Spanish, and Russian literature of this period, including naturalism, realism, and symbolism.

582. **Extended Readings in Shakespeare.** (3:3:0) F. Young
Extensive study of the body of Shakespeare's works.

615. **Bibliography and Methods of Research.** (2:2:0) F.S.Su. Gassman, J. Thomas
The use of library resources as tools for literary study and an introduction to various areas in which literary reseach may be pursued.

621. **Problems in the English Language.** (3:3:0) F.Su. Prerequisite: Engl. 421. Cox, McKendrick
The study of a particular period in the English language or a particular aspect of the language, such as the study of morphology or syntax.

624. **Old English.** (3:3:0) F.S.Su. McKendrick, Young
A study of Old English grammar and vocabulary in order to understand traditional syntactical patterns and to read various types of Old English prose and poetry.

625. **Beowulf.** (2:2:0) S. (Offered alternate years. Not offered 1967-68) Prerequisite: Engl. 624. McKendrick, Young
A close reading of the poem in the original with emphasis upon literary and cultural values.

626. **Middle English.** (2:2:0) S. (Not offered 1967. Scheduled alternately with Engl. 671.) McKendrick
A detailed study of the principal Middle English dialects as illustrated in the literature of the period.

631. **The English Novel.** (3:3:0) F.Su. Prerequisite: Engl. 332 or 333, or consent of instructor. Brady, B. Clark
An intensive analysis of literary values and techniques in selected novels. Not a survey course.

635. **The American Novel.** (3:3:0) S.Su. M. Clark, Jacobs
Various approaches to the novel with emphasis on the formal. Focus may vary according to the instructor and the needs of students.

641. **The English Drama.** (3:3:0) S. 1967, Su. 1968. Craig
A short intensive survey of English drama from its beginning, followed by independent research.

650. **Literary Criticism.** (3:3:0) F.Su. Prerequisites: Engl. 251, 450, or consent of instructor. M. Clark, Hart
An examination of modern critical theory and practice and application by students to specific literary works.

661. Colonialism and Puritanism in American Literature. (3:3:0) S.Su. Prerequisite: Engl. 361 or consent of instructor. Jacobs, Thomson, Williams

Intensive readings in major writers of the emerging American literary and cultural traditions before 1800.

662. Romanticism in American Literature. (3:3:0) F.Su. Prerequisite: Engl. 361 or consent of instructor. Jacobs, R. Thomas, Thomson

The rise and fruition of the romantic movement in American literature from Freneau to Lowell.

664. Realism and Naturalism in American Literature. (3:3:0) F.Su. Prerequisite: Engl. 362 or consent of instructor. M. Clark, Jacobs

Dominant and aesthetic trends since the Civil War.

669. Teaching English in the Secondary Schools. (2:2:0) F.Su. Prerequisite: Engl. 377 or consent of instructor. West

Intensive consideration of literature, writing, grammar, and reading materials appropriate to English courses and the effective use of these materials.

671. The Medieval Period in English Literature. (2:2:0) S.Su. (Scheduled alternately with Engl. 626) Engl. 626 helpful, but not required.

A close reading in the original of a principal work, such as **Troilus and Criseyde, Piers Plowman,** or **Sir Gawain and the Green Knight,** with emphasis upon its relation to the other literature, the culture, and the history of the period.

672. The Renaissance in English Literature. (3:3:0) F.Su. Prerequisite: Engl. 372 or consent of instructor. Larson, J. Thomas, Wood, Young

Research in individual authors, styles, influences, and trends. Emphasis will vary according to instructor.

673. Classicism in English Literature. (3:3:0) S.Su. Prerequisite: Engl. 373 or consent of instructor. Gassman, Hart

A study in depth of selected writers from the period 1660-1780.

674. Romanticism in English Literature. (3:3:0) F.Su. Prerequisite: Engl. 374 or consent of instructor. Cheney, B. Clark, J. B. Harris

An intensive review of the major figures and trends in the Romantic period (1780-1832) along with individual research.

675. The Victorian Age in English Literature. (3:3:0) S.Su. Prerequisite: Engl. 375 or consent of instructor. Brady, B. Clark, Farnsworth

A careful and detailed analysis of literary genres, values, and techniques in representative works of the period. Not a survey course.

680. Seminar in Modern Literature. (3:3:0) F.Su. Prerequisite: at least one course in twentieth century literature or consent of instructor.
M. Clark, Hart, Larson

Study of specific trends in literature and criticism; students may select areas of interest.

682. Seminar in Shakespeare. (3:3:0) F.Su. (Offered alternately with Engl. 641, The English Drama) Prerequisites: Engl. 382, 582, or consent of instructor.
Hart

Problems in Shakespearean scholarship and criticism.

691. Research in Folklore. (2:2:0) S. (Offered 1965 and alternate years)
Cheney

Directed study and research in folklore and folkways with emphasis on Mormon heritage and tradition.

695. Individual Readings in English. (1-2:1-4:0) F.S.Su.

Intended for investigation beyond course work offered, not for filling out minimum required hours.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

See options described with master's program in English above.

Food and Nutrition

Professors: Bennion (chairman, 2218 SFLC), Morris.

Assistant Professor: Matheson.

Instructor: Turner.

Special Instructors: Baxter, Bryner.

The Department of Food and Nutrition is organized to help the student understand the basic principles which underlie the role played by food in the maintenance of optimum health and the preparation of food of high culinary and nutritive quality. Application of principles is made through the planning, preparation, serving, and evaluation of attractive and nourishing family meals and through the preparation and evaluation of single items under experimentally controlled conditions. The selection of food to meet human nutritional needs is justified theoretically and practically.

Courses in this department provide training for such professional fields as hospital dietetics, public health nutrition, school lunch or restaurant administration, test kitchen work, food demonstration, college teaching, and research.

The courses in this department are planned to be of value to both men and women.

For majors in food and nutrition a minimum of 24 credit hours in the department is required. For graduation from the College of Family Living one course is required from each of the following departments: clothing and textiles, housing and home management, and child development and family relationships.

Suggested Program

Food and Nutrition Major

Freshman

	Hours
Undergrad. relig.	4
Engl.	6
P.E. & health	3
Zool. 105	3
Psych. 111	3
Chem. 101 or 105 & 106	4-8
Math. 101 or 105	3
Food & Nutr. 115	2
Electives	2-6
Total Hours	32-34

Sophomore

	Hours
Undergrad. relig.	4
P.E.	1
Zool. 261, 263	4
Art	2
Econ. 101	3
Chem. 151	5
Bact. 121 or 331	3-5
Food & Nutr. 264, 265	5
Electives	5-7
Total Hours	32-34

Junior

	Hours
Undergrad. relig.	4
Hist. 170	3
Chem. 384, 385	5
Physics 100	3
Hous. Home Mgt. 335	3
C.D.F.R. 210 or 410	3
Food & Nutr. 335	5
Food & Nutr. 340, 370	4
*An. Sci. 225	2
Electives	2-3
Total Hours	34-35

Senior

	Hours
Undergrad. relig.	4
Hum. & fine arts	4
Clo. & text.	2-3
*Bact. 361	2
Food & Nutr. 455, 490	5
Other food & nutr. courses	3-7
Electives	10-15
Total Hours	30-35

*Strongly recommended

Students preparing for a dietetic internship must elect Food and Nutr. 380, 470, and 472; Acctg. 201; Psych. 330; Tchr. Ed. 304 or Psych. 460.

A postgraduate internship of twelve months is required for positions in hospital dietetics. Certain centers have been approved by the American Dietetic Association to give internship training. A list of these centers, as printed by the American Dietetic Association, is available in the office of the department chairman.

If a student plans to extend his college education in food and nutrition beyond the bachelor's degree, the following undergraduate program is advised.

Suggested Program

Preparation for Graduate Work in Food and Nutrition

Freshman

	Hours
Undergrad. relig.	4
Engl.	6
P.E. & health	3
Chem. 105, 106	8
Math. 111	5
Zool. 105	3
Food & Nutr. 115	2
Psych. 111	3
Total Hours	34

Sophomore

	Hours
Undergrad. relig.	4
P.E.	1
Chem. 223	5
Physics 201, 202	8
Art	2
Econ. 101	3
Hum. & fine arts	4
Zool. 261, 263	4
Electives	3-5
Total Hours	34-36

Junior

	Hours
Undergrad. relig.	4
Hist. 170	3
Chem. 351, 352, 354, 355, 384, 385	13
Food & Nutr. 264, 265, 335, 340	12
Total Hours	32

Senior

	Hours
Undergrad. relig.	4
Bact. 331	5
Hous. Home Mgt. 335	3
Clo. & text.	2-3
Food & Nutr. 370, 455, 464, 490, 594 or 595	11-12
Electives	8-10
Total Hours	35-36

Students preparing for positions in business should elect Hous. Home Mgt. 480; Commun. 101; Speech 101 or 102; and Tchr. Ed. 406.

Courses

110. Introductory Food and Nutrition. (2:1:2) F.S. Fee: $4.00

Open to all students. Techniques of food preparation for maximum retention of nutritive value are taught through lecture and laboratory experience.

115. Essentials of Nutrition. (2:2:0) F.S.Su. Home Study also. (m)

Basic concepts of human nutrition and their application in achievement and maintenance of optimum health.

☐**Animal Science 225. Meat Identification and Preparation.** (2:1:3)

245. Nutrition of Mother and Child. (2:2:0) S. (m) Prerequisite: Food & Nutr. 115.
Bryner

The nutritional needs of expectant mothers, infants, and children, and the proper choice of food to meet these needs.

255. **Fundamentals of Nutrition.** (5:4:2) F.S. (m) Prerequisites: Zool. 105 or 261; Chem. 151. Morris

For nonmajors. Majors should elect Food & Nutr. 115 and 335.

Basic concepts of human nutrition at all ages. Achievement and maintenance of optimum health for all family members.

264. **Introduction to Experimental Foods.** (3:3:0) F.S. (m) Prerequisites: Chem. 151; Bact. 121 or 331; concurrent registration in Food & Nutr. 265. Bennion

An experimental approach is used to gain an understanding of the purpose of ingredients and procedures used in the preparation of some common foods. The underlying theory of and practice in the preservation of foods is included.

265. **Introduction to Experimental Foods, Laboratory.** (2:0:6) (m) Prerequisite: concurrent registration in Food & Nutr. 264. Bennion, Turner

310. **Food Patterns of Various Cultures.** (2:1:3) F. (m) (Offered 1967 and alternate years) Prerequisites: Food & Nutr. 110 or 264 and 265. Fee: $4.00. Bryner

The social, religious, economic, and aesthetic significance of food customs of various cultures.

335. **Chemistry of Nutrition.** (5:4:2) S. Prerequisites: Food & Nutr. 115; Zool. 261; completion of or concurrent registration in Chem. 384, 385. Morris

Application of scientific principles to the study of nutrition.

340. **Meal Management.** (2:1:3) F.S. (m) Prerequisites: Food & Nutr. 115 or 255; 264, 265. Fee: $5.00. Bryner

Organization and management of time, energy, and finances in planning and preparing family meals.

370. **Quantity Food Production and Service.** (2:1:3) F. (m) Prerequisites: Food & Nutr. 110 or 264 and 265; or consent of instructor. Baxter

Standards and procedures for preparing and serving food to large groups. Planning menus and costing recipes.

380. **Quantity Food Purchasing.** (2:2:0) F. Prerequisites: completion of or concurrent registration in Food & Nutr. 370; Food & Nutr. 264, 265.

Principles and methods of buying food for various types of institutions with emphasis on specifications and factors affecting quality and food cost control.

455. **Diet Therapy.** (3:2:2) S. Prerequisite: Food & Nutr. 335. Bennion

The role of nutrition in times of stress and special need and as a therapeutic aid in treatment of disease.

464. **Experimental Foods.** (3:2:3) F. (Offered 1966 and alternate years) Prerequisites: Food & Nutr. 264, 265; Chem. 384, 385. Bennion

Application of scientific principles to food study. Development of methods used in solving experimental food problems.

470. **Advanced Quantity Food Production.** (2:1:3) S. Prerequisites: Food & Nutr. 370 and 380. Baxter

Supervising preparation and service of food to large groups. Observing preparation and serving in community institutions. Methods in catering.

472. **Food Service Organization and Administration.** (3:2:3) S. Prerequisite: completion of or concurrent registration in Food & Nutr. 470.

Management of financial and personnel problems in food service administration. Planning of institutional kitchens; selection and maintenance of equipment. Field trips required.

490. **Seminar.** (2:2:0) S. Prerequisites: 10 credit hours in food and nutrition or consent of instructor. Bennion, Morris

594. Special Problems in Food. (1-2:0:3-6) Arr. Prerequisite: consent of instructor and chairman of department. Bennion

For students who have completed at least 12 hours in food and nutrition. Independent study of a special problem in food under direction of an instructor.

595. Special Problems in Nutrition. (1-2:0:3-6) Arr. Prerequisite: consent of instructor and chairman of department. Morris

For students who have completed at least 12 hours in food and nutrition. Independent study of a special problem in nutrition under direction of an instructor.

635. Advanced Human Nutrition I. (3:3:0) F. (Offered 1967 and alternate years) Prerequisite: Food & Nutr. 335 or equivalent. Morris

Protein and amino acid nutrition; carbohydrate, lipid, and energy metabolism.

636. Advanced Human Nutrition II. (3:3:0) S. (Offered 1968 and alternate years) Prerequisite: Food & Nutr. 335. Morris

Mineral and vitamin metabolism.

664. Science and Experimental Foods I. (3:3:0) F. (Offered 1966 and alternate years.) Prerequisite: Food & Nutr. 464 or equivalent. Bennion

Protein foods; simple colloidal systems, gels, emulsions, and foams.

666. Science and Experimental Foods II. (3:3:0) S. (Offered 1967 and alternate years). Prerequisite: Food & Nutr. 464 or equivalent. Bennion

Enzymes in food; carbohydrates and lipid food materials.

690. Seminar in Food. (1-2:1-2:0) F. Bennion

691. Seminar in Nutrition. (1-2:1-2:0) S. Morris

695. Methods of Research in Food and Nutrition. (3:0:9) F. (Offered 1966 and alternate years)

697. Research. (1-3:Arr.:Arr.) F.S.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) Bennion, Morris

Food and nutrition class demonstration

Forum Assemblies

Professor: Herald R. Clark (coordinator, 154 JKB)

(An interdepartmental area only)

In 1958 Brigham Young University inaugurated a weekly series known as forum assemblies. The purpose of the assemblies is to bring to our campus men and women of recognized preeminence in their chosen fields and to hear their stimulating messages. Among those appearing in years past were Gen. Carlos Romulo, Ogden Nash, Margaret Mead, and others of similar stature.

One-half hour credit per semester or one hour per year may be earned by registering for and attending a minimum of eleven forums each semester. Attendance is based on the honor system. Forum assembly credit may be carried above the normal class load. Grading, on a "pass" basis, will have no effect on grade-point average. Students must register for forum assemblies on the basis of their standing as freshmen, sophomores, juniors, or seniors. All students are encouraged to attend these provocative, intellectually rewarding assemblies.

Lower Division Courses

101, 102. Lectures in Contemporary Civilization. (½:1:0 ea.) F.S. Forum Lecturers

Open to freshman students only.

201, 202. Lectures in Contemporary Civilization. (½:1:0 ea.) F.S. Forum Lecturers

Open to sophomore students only.

Upper Division Courses

301, 302. Lectures in Contemporary Civilization. (½:1:0 ea.) F.S. Forum Lecturers

Open to junior students only.

401, 402. Lectures in Contemporary Civilization. (½:1:0 ea.) F.S. Forum Lecturers

Open to senior students only.

Geography

Associate Professors: Millett (chairman, 167 D, HGB), Layton.

Assistant Professors: Aamodt, Grey, Horiuchi, Stevens, Tuttle.

A major in geography provides training for a variety of employment opportunities. Graduates are engaged in teaching and in various positions in business and industry. They also work in planning, intelligence, cartography, and other government employment. The undergraduate major is designed to provide a general background which may lead into any of these fields. Students seeking employment in business, industry, or government agencies should usually anticipate some post-graduate work, either an academic program leading to an advanced degree or one of many in-service training programs offered by these employers.

Training in geography is also of value to students from other fields. The survey courses offer a broad, overall view of the earth and its problems. The advanced courses may be used to reinforce areas of major interest in terms of a particular part of the world or to learn techniques used by geographers in analysis of distribution of various physical or cultural features.

Students majoring in geography may fill their general education requirements with either the twelve semester hours of one foreign language or with the nine semester hours of credit in mathematics, statistics, logic and science. Students planning to seek employment in professional cartography should take at least twelve semester hours of mathematics. Those planning to become area specialists should choose the language option. All majors must select courses from the above group in consultation with their departmental adviser.

The following courses are required for a major:

Lower division: Geog. 101, 211, 231.

Upper division: Geog. 401, 405, 450, 504, 598; at least two of the following regional courses: 455, 460, 470, 475, 480; at least two of the following systematic courses: 441, 522, 533; and electives in geography to make a total of 32 hours.

It is suggested that a minor in geography include Geog. 101 and 120. The remaining eight hours should be chosen from the courses marked m that are most closely related to the major field.

Students planning to certify for teaching, please see the Teacher Education section of the catalog.

Courses

101. Introduction to Geography. (3:3:0) F.S. Home Study also. (G-SS m)
Grey, Millett

A general survey of the distribution of and processes concerned with the different factors of man's natural environment, i.e. landforms, climate, soils, natural resources.

120. **Geography and World Affairs.** (3:3:0) F.S. Home Study also. (G-SS m)
A survey of the world stressing the human and economic geography of major political regions. Of special interest to all students who wish to broaden their knowledge of the problem areas of the world today.

211. **Introduction to Maps and Air Photos.** (2:1:2) F.S. (m) Grey, Layton
Maps and air photos as tools for teaching and research. Sources of maps and photos and practice in their use.

231. **Economic Geography.** (3:3:0) F.S. Home Study also. (G-SS m)
A brief survey of the world's resource pattern. Origin, importance, and movement of major agricultural and mineral commodities in world affairs.

312. **Map Drawing.** (3:2:4) S. (m) Prerequisite: Geog. 211. Layton
Maps as a means of recording information. Methods of illustrating various types of data and preparation of maps for reproduction and publication.

332. **World Mineral Resources.** (2:2:0) S. (m) Prerequisite: Geog. 231. Layton
Geography of reserves, production, and uses of the world's major metallic and nonmetallic minerals.

401. **Geography of Climates.** (2:2:0) F. (m) Prerequisite: Geog. 101 or consent of instructor. Tuttle
The elements, controls, distribution, and classification of the climates of the earth.

405. **Geography of Landforms.** (2:2:0) S. (m) Prerequisite: Geog. 101 or consent of instructor. Grey
The elements of landforms, their distribution, and cultural significance.

441. **Political Geography.** (3:3:0) F.S. (G-SS m) Horiuchi
The physical, political, economic, and social elements of political geography and analysis of the power structure of the world's major powers.

450. **North America.** (3:3:0) F.S. Home Study also. (G-SS m) Tuttle
The United States and Canada including climates, landforms, natural resources, agriculture, and industries.

455. **Latin America.** (3:3:0) F. Home Study also. (m) Layton
Physical and cultural geography of the nations of South and Middle America.

460. **Europe.** (3:3:0) S. Home Study also. (G-SS m) Millett
The land and how man is utilizing the natural and human resources of Europe. Emphasis on human geography of major political regions.

470. **Asia.** (3:3:0) F. (m) Horiuchi
Geography of one-third of the earth and two-thirds of its people. Man's use of his natural environment.

475. **Africa.** (3:3:0) F. (m) Aamodt
Systematic regional treatment of physical, economic, political, and cultural geography of Africa.

480. **Australia and New Zealand.** (2:2:0) F. (m) Grey

490. **Readings in Systematic Geography.** (1:0:2) F.S.
For majors only or by permission of department chairman.

491. **Readings in Regional Geography.** (1:0:2) F.S.
For majors only or by permission of department chairman.

493. **Special Problems.** (1-2:1-2:0) F.S.
For majors only.

501. **Principles of Geography** (3:3:0) S. Tuttle
Designed to present information required for the teaching of geography.

504. **Geographic Field Techniques.** (2:1:2) S. Millett
For majors only.

522. **Urban Geography.** (2:2:0) F. (m) Aamodt, Layton
Distribution of urban areas, their development, internal land use patterns, and functions in the world's economy.

533. **Industrial Geography.** (3:3:0) S. (m) Prerequisite: Geog. 231. Layton
A systematic analysis of location patterns of major industries in the United States; raw materials, power resources, and other factors in industrial location.

552. **United States.** (2:2:0) S. Prerequisite: Geog. 351. Tuttle
A concentrated study of various phases of the geography of the U.S. Considerable research and reporting by individual students is required.

553. **Geography of Utah.** (2:2:0) S.
The distribution of climates, landforms, vegetation, agriculture, mining, manufacturing, and service industries as related to present population and future growth patterns in Utah.

556. **South America.** (2:2:0) S. Prerequisite: Geog. 455. Layton

557. **Caribbean Area.** (2:2:0) Prerequisite: Geog. 455. Layton

561. **Western Europe and the Mediterranean.** (2:2:0) Prerequisite: Geog. 460. Millett
A comprehensive study of the systematic and regional geography of non-Communist Europe.

562. **USSR and Its Satellites.** (2:2:0) Prerequisites: Geog. 460 or 470 or consent of instructor. Tuttle
A concentrated study of the physical features, resources, agriculture, industries, and distribution of peoples.

571. **Problems of Asia.** (2:2:0) F. Prerequisite: Geog. 470. Horiuchi
A comprehensive study of the systematic and regional geography of Asia.

580. **Geography of Underdeveloped Areas.** (2:2:0) F. Prerequisite: consent of instructor. Aamodt, Horiuchi
Physical, economic, and human geography as it affects the world's underdeveloped areas, with emphasis on future development possibilities.

598. **Seminar in Techniques of Research and Presentation.** (2:2:0) Arr.
A pro-seminar concentrating on the scholarly use of the printed and manuscript materials in the different aspects of geography and the effective presentation of research findings in written and oral form.

601. **Physical Geography.** (2:1:2) F. Millett

620. **Cultural Geography.** (2:1:2) S. Aamodt

□**History 685. Historical Geography of the U.S.** (2:2:0)

690. **Readings in Systematic Geography.** (1:0:2) F.S.
For graduate students only.

691. **Readings in Regional Geography.** (1:0:2) F.S.
For graduate students only.

695. **Special Problems.** (1-2:1-2:0) F.S.

696, 697. **Research.** (2:2:0 ea.) F.S.

698. **Graduate Seminar.** (2:2:0) Arr.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.

Geology and Geological Engineering Science

Professors: Hintze (chairman, 275 ESC), Bissell, Bullock, Hansen, Rigby.

Associate Professors: Bushman, Hamblin, Phillips.

Assistant Professors: Best, Braithwaite, Brimhall, Petersen.

Curator: Jensen.

Geology, a science of great diversity, offers attractive career possibilities to students whose interests range over the physical and biological sciences. A balance between indoor and outdoor work, opportunity for wide travel, better than average salaries, and satisfying scholarly and professional work are some of the appealing features of this science. Graduates in this field find employment with oil companies, mining concerns, academic institutons, and state and federal organizations.

Three bachelor-degree majors are offered within the department: earth science, geology, and geological engineering. The earth science major is intended for prospective secondary school teachers and for other individuals who would like to graduate in science but who do not plan on a professional career in geology. The geology and geological engineering degrees are designed for professional work in the science.

Earth Science Major. Earth science is becoming widely recognized as one of the most appropriate science subjects to be taught in the 7th, 8th, or 9th grade programs. It is basically descriptive and junior high students are readily able to grasp its concepts. There is a rapidly growing demand for teachers prepared to handle this material. Although its core is geology it includes some astronomy, meteorology, and geography. Students preparing to teach earth science in public schools should fulfill the earth science requirements listed below, including the teacher education courses necessary for a state teaching certificate. Other prospective teachers who plan to use geology as a composite major or minor should refer to the Teacher Education Section of this catalog for the required classes.

Those students who would like to graduate in a science but do not plan on professional geology or teaching as a career may substantially extend their choice of courses by substituting any upper division electives for the teacher education courses in the earth science curriculum listed below.

All students majoring in earth science are required to take 59 credit hours from the following list of courses with a minimum in each group as follows: 20 hours of geology, 14 hours in physics, 8 hours in chemistry, 5 hours in mathematics, and 4 hours in geography.

Geology: 111 (4), 112 (4), 251 (5), 252 (3), 311 (4), 312 (1), 313 (3), 410 (4), 460 (4), 470 (3), 480 (4), 502 (2).

Physics: 127 (3), 137 (3), and either 201-202 (8) or 211, 212, 213, 214 (10); 315 recommended as an option.

Chemistry: either 105 (4) and 106 (4) or 111 (5) and 112 (5).

Mathematics: 111 (5), 112 (5), 213 (5), 334 (3).

Geography: 211 (2), 401 (2).

It is strongly recommended that earth science majors take the following classes in filling the University general education group requirements: Bot. 105, Zool. 105, Archaeol. 200, Anthrop. 101. For those intending to secure a master's degree in any phase of science education it is strongly recommended that Math. 112 and 113 be taken. Physics 211, 212, 213, and 214 should be taken by capable students in preference to 201 and 202, and should be followed by Physics 315, if possible. Chem. 111 and 112 should be taken by capable students in preference to 105 and 106.

The following education courses must be taken by those wishing to fulfill state teaching requirements: Tchr. Ed. 301 (2), 310 (2), 362 (2), 377 (3), 403 (4), 415 (2), 479 (8) for a total of 23 hours.

Geology Major. The four-year program in geology consists of a core curriculum required of all students (see outlines below) which emphasizes the rudiments of geology, chemistry, biology, mathematics, and physics. Such training affords maximum flexibility for work opportunities upon graduation. Ideally, however, the capable student should look beyond the bachelor's degree to one or more years of postgraduate work at B.Y.U. or another institution. Students planning ahead for graduate work in geology can best prepare themselves for graduate specialization by taking undergraduate course work in foreign language and in fields of science other than geology. Thus, students pursuing careers in geochemistry, paleontology, or geophysics should plan to take more than the minimum number of courses, particularly in their supporting fields of study, chemistry, mathematics, biology, or physics. Successful completion of the core curriculum plus electives chosen in consultation with the departmental adviser prepares the student for graduate work in these fields at leading universities of the country.

It is expected that a student majoring in geology shall have met the general entrance requirements of the College of Physical and Engineering Sciences. All students majoring in geology are required to complete the following courses (or their equivalents at another institution) to obtain the bachelor's degree: Geol. 111, 112, 251, 252, 311, 312, 313, 410, 460, 470, 480, 591 A, B, C, or D; Chem. 105, 106 or 111, 112; Math. 111, 112; and Physics 201, 202, or 211, 213 are required of all geology majors. Zool. 212 and 213 or 363 may be substituted for the physics requirement by those preparing for a career in paleontology. The combined chemistry and physics or zoology taken will be accepted by the Department of Geology as fulfilling the University requirement for a minor. In partially fulfilling the group requirements of the University, this department recommends Anthrop. 101; Archaeol. 200; Bot. 105; Geog. 231; eight hours of language; and Zool. 105.

Geological Engineering Major. The five-year professional program leading to this Bachelor of Engineering Science (B.E.S.) degree is outlined in the required curriculum listed on the following pages.

Graduate Studies in Geology. The Department of Geology offers training for the master's degree and the Doctor of Philosophy degree, with specialization in various fields of geology. The graduate student is urged to acquire a broad undergraduate foundation in geology and supporting fields before he concentrates on a chosen branch of geology in graduate school. Certain fundamental courses are required of all graduate students: Geol. 507, 512, 551, 540, and 591A, B, C, and D. Course offerings are sufficiently varied and complete so that students may select other courses according to their needs and inclinations in consultation with their advisers.

The graduate program of the Department of Geology offers instruction in five broad divisions of geology, with the following course offerings in each division: (1) economic geology—Geol. 507, 510, 512, 520, 530, 535, 540, 545, 551, 552, 561, 562, 563. 646; (2) mineralogy and petrology—Geol. 507, 510, 512, 540, 545, 551, 552, 561, 562, 563, 653, 655, 656, 657, 671, and 672; (3) paleontology—Geol. 507, 510, 512, 540, 551, 574, 575, 576, 577, 580, 581, 582, 583, 680, 682, and 685; (4) stratigraphy and sedimentation—Geol. 507, 510, 511, 512, 540, 551, 574, 575, 576, 577, 583, 653, 670, 671, 672, and 678; (5) structural, field, and dynamic geology—Geol. 507, 510, 511, 512, 530, 540, 551, 610, 615, 657, 670, 671, 672, and 678.

Master's Degree. (For general requirements see the Graduate School Section of the catalog.) Requirements for a master's degree in geology include (1) at least sixteen hours of formal course work in the major field and at least ten hours of formal course work in one or two minor fields; (2) a written exploratory examination at the beginning of the graduate program; (3) a comprehensive oral examination on the graduate course work prior to his thesis defense; (4) six hours of thesis work embodying the results of research under a faculty member's supervision; and (5) a final oral examination on the research thesis.

Doctor of Philosophy Degree. (For general requirements see the Graduate School Section of the catalog.) Requirements for a Doctor of Philosophy degree in geology include (1) a minimum of thirty hours of formal course work in the major field and a minimum of fifteen hours of formal course work in each of two minor fields (the minors may be in a related field outside of the Department of Geology in which upper division and graduate courses will be acceptable); (2) one degree or one year of acceptable graduate study at another institution; (3) a comprehensive examination after sixty hours of graduate work and at least one academic year prior to graduation; (4) dissertation embodying the results of original research; and (5) defense of his dissertation before a formally appointed committee at the close of his final year of study.

Suggested Curriculum for a Geology Major

Freshman Year

	F	S
Geol. 111, 112	4	4
Math. 111, 112	5	5
Engl. 111, 112	3	3
Bot. 105		3
Health 130	2	
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
Total Hours	16½	17½

Sophomore Year

	F	S
Geol. 251, 252	5	3
Chem. 111, 112	4	3
Hist. 170		3
Zool. 105	3	
Archaeol. 200	3	
Anthrop. 101		3
P.E.	½	½
Undergrad. relig.	2	2
Elective		2
Total Hours	17½	16½

Junior Year

	F	S
Geol. 311, 312	4	1
Geol. 313		3
Geog. 231	3	
Physics 201, 202 (or 211, 213)	4	4
Undergrad. relig.	2	2
Upper division electives	3	6
Total Hours	16	16

Senior Year

	F	S
Geol. 470, 460	3	4
Geol. 480	4	
Geol. 591A,B,C, or D	1	1
Lang.	4	4
Undergrad. relig.	2	2
Upper division electives	3	6
Total Hours	17	17

Summer School

Geol. 410 (summer field camp) 4 hours

The above course outline represents minimum requirements for the Bachelor of Science degree in geology. For those students who may wish to prepare themselves for graduate study in one of the more specialized subsciences of geology, the following courses are recommended as electives.

General geologic preparatory courses

Geog. 312 (2 hrs.), Stat. 221 (3 hrs.)

Geophysics preparatory courses

Math. 113 (5 hrs.), Math. 334 (3 hrs.)
Physics 211, 212, 213, 214 (4, 1, 4, 1 hrs.) (**not** Physics 201)
Chem. 111, 112 (5, 5 hrs.)
Chem. 461, 462 (3, 3 hrs.)

Mineralogy preparatory courses

Math. 113 (5 hrs.), Math. 334 (3 hrs.)
Physics 211, 212, 213, 214 (4, 1, 4, 1 hrs.) (**not** Physics 201)
Physics 315 (3 hrs.)

Paleontology preparatory courses

Zool. 212 (4 hrs.), and 213 (4 hrs.) or 363 (4 hrs.)
Zool. 376 (4 hrs.)
Stat. 221 (3 hrs.)
Geol. 580, 581 (4, 4 hrs.) instead of 480

Required Curriculum for Geological Engineering

Freshman Year

	F	S
Geol. 111, 112	4	4
Engl. 111, 112	3	3
Math. 111, 112	5	5
Health 130	2	
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
Zool. 105		3
Total Hours	16½	17½

Sophomore Year

	F	S
Geol. 251, 252	5	3
Bot. 105		3
Chem. 111, 112	4	3
Math. 113, 334	5	3
P.E.	½	½
Hist. 170		3
Undergrad. relig.	2	2
Total Hours	16½	17½

Junior Year

	F	S
Chem. 223	5	
C.E. 101, 102	2	2
Geol. 311, 312	4	1
Geol. 313		3
Geog. 231		3
Physics 211, 213	4	4
Undergrad. relig.	2	2
Upper division electives		3
Total Hours	17	18

Summer School

Geol. 410 (summer field camp) 4 hours

Senior Year

	F	S
C.E. 203, 301	2	3
Geol. 470, 460	3	4
Geol. 480	4	
Geol. 591A,B	1	1
Lang.	4	4
Lit. (upper division)		2
Soc. sci.		2
Undergrad. relig.	2	2
Total Hours	16	18

Fifth Year

	F	S
C.E. 211, 212	3	2
Chem. 321		4
Geol. 507, 512	2	4
Geol. 551	5	
Geol. 591C,D	1	1
Electives	6	6
Total Hours	17	17

Twelve semester hours from the following list of electives are to be taken during the fifth year and will apply toward the B.E.S. degree in geological engineering: Geol. 520, 530, 535, 540, 545, 574; physical chemistry; differential equations; nuclear physics.

Courses

101. Introduction to Geology. (2:2:0) F.S.Su. Home Study also. (G-PS m)
A cultural nontechnical course dealing with physical geology. Designed for the nonscience student who desires a broad introduction to earth science and a greater appreciation of his surroundings. May be taken with or without Geol. 102. Annual two-day field trip through central and southern Utah is sponsored each spring for all Geol. 101, 102, and 103 students of the year.

102. Introduction to Geology Laboratory. (1:0:2) F.S.Su. (G-PS m)
Laboratory course (including a local field trip) in which common rock and ore-forming minerals, common rocks, and maps will be studied. For annual field trip, see Geol. 101.

103. Life of the Past. (3:3:0) F.S.Su. Home study also. (G-PS m)
A cultural nontechnical course in historical geology. Designed for the nonscience student who desires an understanding of life forms and general historical events of the geologic past. Fossils studied in laboratory. For annual field trip, see Geol. 101.

111. Physical Geology. (4:3:2) F.S. (G-PS m) Hamblin
Materials, structure and surface features of the Earth and the geologic processes involved in their development. Field trips cost approximately $25. Not recommended for students who have taken Geol. 101 and 102.

112. Historical Geology. (4:3:2) F.S. (G-PS m) Prerequisite: Geol. 111. Hintze
The history of the earth and the evolution of its inhabitants. Representative fossils are studied in the laboratory. Required field trips cost approximately $35.

251. Mineralogy. (5:3:4) F. (m) Prerequisite: Chem. 105 or 111; concurrent registration accepted. Phillips
Crystal chemistry and structure and its expression in physical and crystallographic properties of minerals. Hand specimen identification of rock-forming minerals.

252. Petrology. (3:2:2) S. (m) Prerequisite: Geol. 251. Best
A detailed study of the rock-forming minerals, and a megascopic study and classification of important igneous, sedimentary, and metamorphic rocks.

306. Landforms and Their Origin. (3:3:0) S. Home Study also. (Offered in 1966-67 and alternate years) (G-PS m) Prerequisite: Geol. 101 or Geol. 111. Bushman
The earth's landscape features and their origin, dealing with the sculpturing of mountains, hills, plains, and plateaus by erosive processes, and the landform features produced by earth movements and volcanism. Designed especially for nonmajors.

311. Structural Geology. (4:3:2) F. Prerequisites: Geol. 252 and Math 111. Hintze
Structural and physiographic features of the earth's crust and forces and agents which have produced them.

312. Geological Literature and Scientific Report Writing. (1:1:0) S. Prerequisite: successful completion of Junior English Proficiency Exam. Best
Introduction to indexes and various sources of geologic literature. Written exercises on format, style, and expression of various kinds of geologic reports.

313. Geologic Methods. (3:2:2) S. Prerequisite: Geol. 311. Bissell
Practice training in methods of geologic field work and the use of field instruments; office practice in geologic illustration.

330. Geology for Engineers. (3:2:3) F. Brimhall
Origin and occurrence of earth materials and structures emphasizing geologic processes related to engineering problems in underground water, foundation structures and use of earth materials.

410. **Summer Field Camp.** (4:0:40) Su. only; see summer catalog. Prerequisites: Geol. 313, 492.

A five-week summer field camp in geologic mapping. Required of all geology and geological engineering majors.

460. **Principles of Economic Geology.** (4:3:2) S. Prerequisite: Geol. 252. Bullock

Principles and processes of formation of metallic, nonmetallic, and mineral fuel deposits and their occurrence. Laboratory study of the common ore-forming minerals.

470. **Stratigraphy and Sedimentation.** (3:2:2) F. Prerequisite: Geol. 252. Bushman

Analytical study of sediments and their origin and study of the principles of stratigraphy.

480. **Introduction to Paleontology.** (4:3:2) F. Prerequisite: Geol. 112. Petersen

Systematic study of fossil remains of invertebrate animals, and introductory study of their structure, distribution, and development in past ages.

492. **Seminar for Summer Field Camp.** (1:1:0) S.

496. **Readings in Geology (Honors Program).** (1-2:0:3-6) F.S. Hamblin

Directed reading of challenging books and articles dealing with fundamental geologic problems.

501. **Rocks and Minerals.** (2:2:0) F.Su. (m) Prerequisite: Geol. 102. Bullock

Introductory study of fundamentals of rock and mineral classification and identification. Designed to acquaint the student with the earth's common raw materials, their occurrences, and uses. For nongeology majors.

502. **Geology for Teachers.** (2:2:0) S.Su. Home Study also. (m) Prerequisites: Geol. 101 and 102, or Geol. 103, or Geol. 111. Bushman

Designed to acquaint the teacher with sources of information, projects, and illustrative materials useful in the classroom.

507. **Founders and Concepts of Geology.** (2:2:0) F. (Offered 1967-68 and alternate years) Bushman

The historical development of geology and the men who contributed to it; the concepts and philosophy that make geology distinct from other sciences. Analysis of some of the more controversial problems in geology.

510. **Conducted Field Trips.** (1-3:Arr.:Arr.) S.Su. Prerequisite: Geol. 101, 103, or 111.

Visits to and explanations of a variety of geologic features spectacularly displayed in intermountain west. Credit varies with number and length of trips in which student participates, but in general 30 hours will be spent in the field for each credit hour. Preparation for and review of each trip will be conducted on campus. Maximum credit allowable is 3 hours.

511. **Geomorphology.** (3:3:0) S. (Offered 1966-67 and alternate years) Bushman

The historical development of geomorphic concepts. The description of land forms and evaluation of the processes that formed them, and the application of this knowledge to paleogeography and economic geology.

512. **Geology of North America.** (4:3:2) S. Rigby

A region-by-region study of the areal geology, physiography, and geologic development of Canada, the United States, and Mexico.

520. **Petroleum Geology.** (4:4:0) S. (Offered 1967-68 and alternate years) Hansen

Origin, classification, physical properties, distribution, accumulation, and methods of exploration of petroleum.

530. **Engineering Geology.** (3:3:0) S. (Offered 1967-68 and alternate years) Hansen

Geological principles and phenomena important to an understanding of engineering problems (especially civil engineering), and the relationships which exist between the science of geology and the practical aspects of engineering.

535. **Ground Water.** (4:4:0) F. Hansen

Origin, classification, migration, distribution, and production of water found beneath the earth's surface.

540. **Geophysics and Constitution of the Earth.** (2:2:0) F. (Offered 1966-67 and alternate years) Best

Introduction to seismic, gravitative, magnetic and thermal behavior of the Earth emphasizing application of these to interpretation of mantle and crustal phenomena.

545. **Geochemistry.** (3:3:0) F. (Offered 1967-68 and alternate years) Prerequisites: Math. 113, Physics 213, Chem. 106. Brimhall

The kinds and abundances of elements in the earth, their distribution, and the redistribution in various geologic processes.

551. **Optical Crystallography.** (4:2:4) F. Prerequisites: Geol. 251, Physics 202 or 213. Phillips

Behavior of light in isotropic and anisotropic media and its application to mineral identification in fragments and thin section using the universal stage.

552. **Igneous and Metamorphic Petrography.** (3:2:2) S. Prerequisites: Geol. 252 and 551. Phillips

Micro-structures, textures, and mineral associations in igneous and metamorphic rocks. Classification systems (Johannsen, C.I.P.W.) and application of phase diagrams to mineral associations.

561. **Ore Deposits.** (4:3:2) F. (Offered 1967-68 and alternate years) Prerequisite: Geol. 460. Bullock

Metallic ore deposits, their origin, classification and distribution. Polished sections of ores will be studied using reflecting microscopes.

562. **Nonmetallic Deposits.** (3:3:0) F. (Offered 1966-67 and alternate years) Prerequisite: Geol. 460. Bullock

A detailed study of nonmetallic mineral deposits, their mode of occurrence, and their application in the modern industrial world.

563. **Mining Geology.** (3:3:0) S. Prerequisite: Geol. 460. Bullock

Methods of mineral exploration, guides for ore search, evaluation and development of mineral properties, methods of extraction and beneficiation of ores.

574. **Principles of Stratigraphy.** (3:2:2) F. (Offered 1966-67 and alternate years) Prerequisite: Geol. 470. Bissell

Study and interpretation of stratified rocks; principles of their origin, distribution, and correlation.

575. **Precambrian and Paleozoic Stratigraphy.** (3:3:0) F. (Offered 1966-67 and alternate years) Hintze

Synthesis of regional stratigraphic relation in North America.

576. **Mesozoic and Cenozoic Stratigraphy.** (3:3:0) S. (Offered 1966-67 and alternate years) Hamblin

Basins of deposition of Mesozoic and Cenozoic rocks in the U.S. and key fossils associated with them. Special emphasis on the distribution of these rocks in the state of Utah.

577. **Oceanography.** (3:3:0) F. (Offered 1966-67 and alternate years) Prerequisite: Geol. 470. Hamblin

A study of physical processes operating within oceans. Particular emphasis on dynamics of currents, waves, and tides, and the resulting shoreline topography, sedimentary patterns, and sea floor features.

580. **Invertebrate Paleontology (Protozoans through Brachiopods).** (4:3:2) F. (Offered 1967-68 and alternate years) Rigby

Designed for the upper division and the graduate student who desires a broad background in paleozoology including morphology, paleoecology, evolution, and stratigraphic significance of invertebrates. Basic course for student planning to do graduate work in paleontology or stratigraphy.

581. **Invertebrate Paleontology (Mollusks through Hemichordates).** (4:3:2) S. (Offered 1967-68 and alternate years) Rigby

Continuation of Geol. 580.

582. **Biostratigraphy.** (3:2:2) S. (Offered 1967-68 and alternate years) Prerequisite: Geol. 480 or 581. Braithwaite

Fossils in their stratigraphic setting and principles of paleontologic chronology.

583. **Palynology.** (3:2:3) F. (Offered 1966-67 and alternate years) Prerequisites: Bot. 105, Geol. 480. Bushman

Fossil and modern spores and pollens, laboratory techniques in their extraction and identification, application to problems of stratigraphic correlation and paleoecologic interpretation.

591A,B,C,D. **Seminar.** (1:1:0 ea.) F.S.

Required of all graduate students, and required attendance of all seniors.

610. **Structural Geology.** (3:3:0) F. (Offered 1967-68 and alternate years) Hintze

Earth structures and their origin, emphasizing foreign examples.

615. **Photogeology.** (3:1:4) S. (Offered 1966-67 and alternate years) Hintze

Techniques useful to practicing geologists; use of parallax bar and various instruments applicable to contact print photos.

646. **Geochemical Techniques and Mineral Prospecting.** (3:2:2) S. (Offered 1967-68 and alternate years) Prerequisite: Geol. 545. Brimhall

A survey of the kinds of techniques employed in geochemical prospecting. About half the course is taken up with a field problem in geochemical prospecting.

653. **X-ray Diffraction.** (3:2:2) S. (Offered 1967-68 and alternate years) Prerequisites: Physics 213 and Geol. 251. Phillips

X-ray diffraction as applied to identification of minerals and determination of crystallographic constants and crystal structure.

655. **Igneous Petrology.** (4:3:3) F. (Offered 1966-67 and alternate years) Prerequisite: Geol. 552. Best

Phase and compositional relations in magmatic systems. Equilibria in simple silicate systems. Evolution of magmas. Field and laboratory study of selected igneous rock suites.

656. **Metamorphic Petrology.** (4:3:3) S. (Offered 1966-67 and alternate years) Prerequisite: Geol. 552. Best

Subsolidus mineral equilibria; thermodynamic concepts; geologic variables in metamorphic systems; graphical analysis of mineral assemblages; laboratory study of textural and compositional relations of metamorphic minerals.

657. **Structural Geology of Metamorphic Rocks.** (4:3:3) F. (Offered 1967-68 and alternate years) Prerequisite: Geol. 552. Best

Graphic analysis of linear and planar structures in simple and complex fold systems; mechanical behavior of strained rocks; field and laboratory study of metamorphic rocks.

670. **Sedimentation and Sedimentary Tectonics.** (3:2:2) S. (Offered 1966-67 and alternate years) Bissell

Fundamental concepts in the science of sedimentology, and laboratory exercises illustrative of processes of sedimentation followed by review and discussions of tectonic environments which control sedimentation. Field trips are taken into areas illustrative of the subject matter.

671. **Sedimentary Petrology—Carbonate Rocks.** (3:3:2) F. (Offered 1967-68 and alternate years) Bissell

Field and laboratory classifications and studies of carbonate sedimentary rocks.

672. **Sedimentary Petrology—Clastic Rocks.** (3:2:2) S. (Offered 1967-68 and alternate years) Prerequisite: Geol. 470. Hamblin

Field and laboratory study and classification of clastic rocks, particularly sandstones.

678. **Subsurface Methods.** (3:2:2) S. (Offered 1967-68 and alternate years) Prerequisite: Geol. 551. Bushman

To acquaint the student with the tools and techniques employed by the subsurface geologist in describing the lithologic characteristics of subsurface rock; the use of this information for interpreting sedimentation environments, geologic structures, and stratigraphic correlation.

680. **Micropaleontology.** (3:2:2) S. (Offered 1966-67 and alternate years) Prerequisite: Geol. 480 or 581. Braithwaite

A systematic study of the geologically important microfossils, including techniques, morphology, and stratigraphic significance. Conodonts, ostracodes, and foraminifera are stressed.

682. **Vertebrate Paleontology.** (3:3:0) F. (Offered 1966-67 and alternate years) Prerequisite: Geol. 480 or 581, or consent of instructor. Petersen

The backboned animals through time (Agnatha through Mammalia). Morphology, ecology, phylogeny, and stratigraphic significance are stressed.

685. **Paleoecology.** (4:3:2) S. (Offered 1966-67 and alternate years) Prerequisite: Geol. 480 or 581. Rigby

Interpretation of ancient environments and of the adaptation of organisms to these environments as shown by a systematic treatment of each of the major taxonomic groups and by selected analyses from the professional geologic literature.

696. **Reading and Conference in Geology.** (1-4:1-4:0) F.S.Su.

697. **Directed Field Studies.** (1-6:Arr.:Arr.) F.S.Su.

Supervised field work in any of the fields of specialization in geology for candidates for master's degree.

698. **Research.** (1-4:1-4:0) F.S.Su.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su. (m)

797. **Directed Field Studies.** (1-6:Arr.:Arr.) F.S.Su.

Supervised field work in any of the fields of specialization in geology for candidates for Ph.D. degrees.

799. **Dissertation for Doctor of Philosophy Degree.** (Arr.) F.S.Su.

Graduate Department of Education

Professors: Egbert (chairman, 205 McK), Alley, Bauer, Berryessa, Burrup, Callahan, Christensen, Clarke, Daines, Downing, Geddes, Hartvigsen, Holbrook, Jensen, Lloyd, Moffitt, Morrill, Oakes, Ovard, Reid, Romney, Smith, Woolf (emeritus).

Associate Professors: Babcock, Baird, Barnett (emeritus), Belt, Crnkovic, Flandro, Hardy, Harms, Harris, Kelly, Moses, Ord, Sucher, Wilcox, Wilson.

Assistant Professors: Anderson, Cottrell, Harmon, Harrison, Herlin, Pinegar, Rhode, Shute.

The Graduate Department of Education is organized to offer courses for all persons engaged in professional education and service courses to graduate students in other disciplines.

Programs are designed to give special training to school administrators, school business managers, supervisors, curriculum directors, educational psychologists, school psychologists, specialists in counseling and guidance, reading specialists, teachers of special education, and master teachers. Such programs are at once intensive and broad in scope. They are designed to give the depth and breadth needed by specialists in education.

Graduate Degrees. The department offers graduate degrees at both the master's and doctoral levels. The Master of Arts and the Master of Education degrees are offered. In addition, both the Doctor of Education and the Doctor of Philosophy are offered by this department. (For details of these programs see the graduate bulletin.)

A two-year certificate, Specialist in Education, is offered for school superintendents, assistant superintendents, elementary and secondary school principals, supervisors, curriculum consultants, school counselors, reading specialists, school psychologists, and special education coordinators.

Courses

514, 515. Analysis of In-Service Problems. (1-3:1-3:1 ea.) F.S.Su.

534. Experimental Practices in Teaching. (3:3:1) F.Su. Ord, Berryessa
Current concepts in elementary education with observation and analysis of some of the best teaching practices. Designed to meet the needs of persons seeking a refresher course, and for prospective administrative personnel in the elementary schools.

547. Foundations in Reading. (3:3:0) F.S.Su. Daines, Sucher
A consideration of the various approaches to reading. A detailed study of readiness for reading and the different techniques of word recognition as developed in kindergarten through grade twelve.

548. Directed Observation in the Elementary School. (2:0:4) F.S.
Directed observation with elementary school pupils. Required for speech therapists who do not have elementary certificates; recommended for teachers who are recertifying and others.

549. Directed Observation in the Secondary School. (2:0:4) F.S.

Directed observation with secondary school pupils. Required for speech therapists who do not have secondary certificates; recommended for teachers who are recertifying and others.

550. Introduction to Guidance Services. (2:2:0) F.S.Su Home Study also. Reid

Principles and practices of pupil personnel services in the public schools. Designed for prospective teachers of both elementary and secondary levels. Required but may not be counted as part of the 30 hours for the master's degree by students majoring in this area of specialization.

551. Evaluation of Educational and Psychological Literature. (2:2:0) S.Su. Egbert

A consideration of the nature of various kinds of educational publications and of problems involved in interpreting their contents. Not intended for students seeking graduate degrees.

552. Statistical Methods. (2:2:0) F.Su.

Measures of central tendency, variability, and linear correlation. Elementary concepts of probability and inference are also discussed. Required but may not be counted as part of the 30 hours for the master's degree by students majoring in this department.

554. Advanced Statistics. (2:2:0) S.Su. Prerequisite: Grad. Ed. 552.

Educational applications of analysis of variance; analysis of covariance; multiple and partial correlation; nonparametric methods.

560. Educational Tests and Measurements. (3:3:0) F.S.Su. Home Study also. Harris

Principles of standardized testing in the schools. Construction and use of classroom tests. Consideration also given to evaluation techniques other than testing.

563. Problems in the Education of the Visually Handicapped. (4:4:0) Arr. Prerequisite: consent of instructor.

Problems confronting administrator and teacher in the different types of school programs now available for the visually handicapped. Specialized teaching methods and materials.

564. Problems in Education of Children with Neurological Impairment. (2:2:0) F.Su. Wilson

Study of specialized methods and materials for teaching children with learning difficulties due to neurological impairment.

565. Problems in the Education of Emotionally Handicapped Children. (3:3:1) S.Su. Prerequisite: consent of instructor.

Organization of educational programs, curricular development and teaching methods for students with emotional problems.

566. Problems in the Education of Orthopedically Handicapped Children. (3:3:0) F.S.Su. Prerequisite: Tchr. Ed. 460, 465. Wilson

Problems of identification, diagnosis and placement, organization of educational programs, curriculum development, and teaching methods for students with orthopedic handicaps including the homebound and hospitalized.

567. Problems in the Education of Mentally Retarded Children. (3:3:0) F.S.Su. Prerequisites: Tchr. Ed. 460, 461.

Problems of identification, diagnosis and placement, organization of educational programs, curriculum development and teaching methods for classes for mentally retarded students.

568A,B,C,D,E. Observation and Participation in Special Education. (2:1:4 ea.) F.S.Su. Prerequisite: consent of instructor.

A—Mentally Retarded; B—Orthopedically Handicapped; C—Visually Handicapped; D—Emotionally Disturbed; E—Hearing Impaired.

Observation and participation in classes for handicapped children. Designed to develop readiness for practicum experience. A laboratory fee of $15.00 is charged, payable upon application for student teaching.

569A,B,C,D,E. Practicum in Special Education. (2-4:0:5-10 ea.) Arr. Prerequisite: consent of instructor.

A—Mentally Retarded; B—Orthopedically Handicapped; C—Visually Handicapped; D—Emotionally Disturbed; E—Hearing Impaired.

A laboratory fee of $15.00 is charged, payable upon application for student teaching.

572. Educational Evaluation of Communication Disabilities. (2:2:4) Arr.

Principles and practices of evaluating communication disabilities of children with emphasis on prescribing education-habilitation procedures. Designed for graduate students in special education, speech pathology-audiology, and other school specialists.

573. Workshop for Teachers of Bilingual Children. (2:8 hrs./day for 2 weeks) Su.

Study of educational needs, materials, and methods appropriate to the background and language problems of bilingual students.

578. Practicum for Elementary Teaching. (2-4-8:2-4-8:5-10-20) Arr.

579. Practicum for Secondary Teaching. (2-4-8:2-4-8:5-10-20) Arr.

601. Comparative Current Educational Philosophy. (3:3:0) F.S.Su. (m) Alley

603. Educational Classics and Contemporary Issues. (3:3:0) F. (m) Lloyd

606. History of Education in Europe and America. (4:4:0) S.Su. (m) Hardy

607. Education in a World Setting. (2:2:0) S. Lloyd, Romney

608. Social Foundations of Education. (3:3:0) F.S.Su. (m)
Clark, Harmon, Ovard

610. Development of Instructional Materials (Audio-Visual Aids). (2:2:1) F.Su. Prerequisite: Tchr. Ed. 406 or equivalent.

An advanced course designed to follow Tchr. Ed. 406.

Principles of learning and the unique contributions of newer instructional media. Of primary concern is the selection, integration, and administration of instructional equipment and materials. Construction and use of specialized materials.

612. Supervision of Student Teachers. (2:2:0) Su.

For those desiring a well-rounded view of the student-teaching program.

613. Teaching Speech in Secondary Schools. (2:2:0) Su.

616. Analysis of In-service Problems. (1-3:1-3:1) F.S.Su.

619. Directing Out-of-Class Activities in Secondary Schools. (2:2:0) Su.
Flandro

Examination of successful practices in scheduling and directing out-of-class activities. The effect of current scientific curriculum emphasis on out-of-class activities is explored.

620. Internship in Reading. (4:0:12) Arr. Prerequisite: consent of instructor.
Daines, Sucher

Designed to provide experiences for practical work either in the reading center or public schools.

622. Advanced Study in Childhood Education. (2:2:0) F. Daines

Educational theory and analysis of current practices in schools as they are related to the significance and problems of early childhood education.

623. **Science in the Elementary School.** (2:2:0) S.Su. Berryessa, Babcock
Designed to give experienced teachers insight into the teaching of elementary science. Includes concentration in unit instruction and methods of presenting science concepts to children.

624. **Advanced Arts and Crafts for Elementary Teachers.** (2:2:1) F.Su. Prerequisite: consent of instructor.
Exploring ideas and materials for the instruction of elementary school children. Attention is given to the specific needs of each course member.

625. **Social Studies in the Elementary School.** (2:2:0) S.Su. Ord, Berryessa
The scope and sequence of the social studies program, its objectives in developing democratic citizenship, and the methods employed in accomplishing this aim.

626. **Methods in the Elementary School—Traditional and Newer Media.** (3:3:0) S.Su. Harmon, Ord
Not open to students who have taken Grad. Ed. 639.
Assessment of readiness; problems of organizing pupils and faculty for instruction, guiding, and pacing; and evaluation.

627. **Reading in the Curriculum.** (2:2:0) F.S.Su. Daines, Sucher
Reading in the different content areas. Study of comprehension and study skills as developed in kindergarten through grade twelve.

628. **Children's Literature.** (2:2:0) S.Su. Prerequisite: Tchr. Ed. 340.
Study of the history, authors, illustrators, and types of children's literature. Exploring and evaluating new books for children. Special attention to reading interests at various age levels.

630. **Teaching Mathematics and Science in Secondary Schools.** (2:2:0) Su. Baird
Designed especially for in-service teachers. Emphasis given to the newer methods, materials, and trends in science and mathematics instruction. Lesson plans developed.

631. **Curriculum Development in the Elementary School.** (3:3:0) S.Su. Daines, Ord
Principles and procedures for organizing the instructional program; patterns of curriculum organization; and techniques for change, evaluation, and stabilization of curriculum.

632. **Research and Literature in Reading.** (2:2:0) S.Su. Prerequisite: Grad. Ed. 547 and 627. Daines, Sucher
Study of the history of reading. Emphasis placed on the research and current literature in the teaching of reading from kindergarten through grade twelve.

633. **Language Arts in the Elementary School.** (2:2:0) F.Su. Daines
Best practices in modern methods of instruction in listening, speaking, and writing with their related skills.

634. **Arithmetic in the Elementary School.** (2:2:0) F.S.Su. Baird, Babcock
Concepts in arithmetic and various activities which will help students acquire correct arithmetical concepts. Special attention on the contributions of research in teaching arithmetic.

635. **Teaching Social Studies in Secondary Schools.** (2:2:0) S.Su. Flandro
Designed to broaden the understanding of curriculum and instruction in secondary school social studies. Relates methods and techniques to the objectives of the social studies.

636. **Curriculum Development in the Secondary School.** (3:3:0) F.S.Su. Belt, Callahan
Not open to students who have taken Grad. Ed. 631.
Analysis of secondary curriculum development in terms of psychological and philosophical principles. Curriculum issues, trends, and current practices are examined.

637. **Organization and Supervision of Reading Programs.** (2:2:0) F.S. Daines

Study of various approaches to teaching reading and ways to organize and supervise reading programs from grades kindergarten through twelve. Practicum experience included.

To be taken toward completion of program and with consent of instructor.

639. **Methods in the Secondary School—Traditional and Newer Media.** (3:3:0) F.Su. Belt, Callahan, Wilcox

Not open to students who have taken Grad. Ed. 626.

Problems of organizing pupils and faculty for instruction; analysis of methods; patterns of grouping; programmed learning; team teaching.

640. **Curriculum of the Junior College.** (3:3:0) F.S.Su. Smith, Christensen

Analysis of junior and community college curriculum practices throughout the United States. Relationship of philosophy to curriculum emphasis. Examination of issues, trends, and current practices.

642. **Methods of Higher Education Instruction.** (3:3:1) F.S.Su. Christensen, Smith

Identification of teacher and pupil activities required for conceptual learning at the college level. Appreciation of the college teacher's responsibilities and role as a member of a college staff. Insight into the backgrounds, abilities, interests and goals of college students and what these mean for instruction. Familiarity with newer tools, teaching materials, and instructional practices.

644. **Directed Teaching in Higher Education.** (2-4:1-2:5-10) F.S.Su. Prerequisite: Grad. Ed. 642. Smith, Christensen

Designed to help students become accomplished and skilled teachers of college classes, to participate effectively as members of college staffs and to prepare for and complete the steps necessary to be placed into college positions.

645. **Guidance Testing and Diagnosis.** (3:3:0) F.S.Su. Prerequisite: Grad. Ed. 552. Jensen, Harris

Study of advantages and disadvantages of particular types of tests, practice in interpreting test results, and the implications of test choices and usage.

646. **Counseling Theory and Practice.** (3:3:0) F.S.Su. Prerequisites or concurrent: Grad. Ed. 645, Psych. 450 or 550. Anderson, Downing

Includes an intensive study of the various theories of counseling, important concepts and views of counseling authorities, current research, and accepted practices.

647. **Group Techniques for Counselors.** (2:2:0) S.Su. Prerequisite: Grad. Ed. 646. Anderson

Principles of group guidance and their application.

650. **Guidance Workshop.** (2:2:0) Arr. Prerequisite: Grad. Ed. 550.

651. **Informational Services in Guidance.** (3:3:0) F.S.Su. Prerequisite: Grad. Ed. 550. Downing

Consideration of various aspects of vocation selection including sources of information, use of community resources, counseling procedures, and the filing and use of occupational data. Theories and psychological factors of career selection emphasized.

652. **Administration of Guidance Services.** (2:2:0) Arr. Prerequisite: Grad. Ed. 550. Reid

Major consideration given to the procedures of organizing and administering guidance programs, and methods of dealing with the problems related to these activities.

653. **Student Personnel Services in Higher Education.** (2:2:0) S. Prerequisite: Grad. Ed. 550. Lloyd, Smith

654. **Problems of the Elementary School Guidance Program.** (2:2:0) Arr. Downing, Rhode

An intensive consideration of the problems of conducting a guidance program in the elementary school, and the determination of guidance and counseling procedures.

656. **Advanced Educational Psychology.** (3:3:1) F.S.Su. Prerequisite: Tchr. Ed. 403. Downing, Bauer

Principles of effective human learning. Discussion of major learning theories and their significance for classroom procedures and for general educational theory.

657. **Behavior Problems in the Schools.** (2:2:0) F.S.Su. Prerequisite: Tchr. Ed. 403. Bauer, Downing

Study of mental hygiene principles and their application to typical classroom problems.

659. **Educational and Psychological Principles of Programmed Learning.** (3:3:2) S.Su. Prerequisite: Psych. 560 or Grad. Ed. 656. Bauer

Principles involved in the development of programs, and a consideration of values and cautions in the utilization of various programs.

660. **Educational Research and Thesis Writing.** (2:2:0) F.S.Su. Prerequisite: Grad. Ed. 552. Cottrell, Harrison

The nature of science and the scientific method; methods of educational research; preparation of the research proposal; preparation of the research report.

661. **Experimental Educational Psychology.** (3:2:4) F. Prerequisites: Grad. Ed. 554 or Stat. 501 and Psych. 374 or Grad. Ed. 660. Egbert

Application of experimental techniques in psychology to problems of education. Particular attention given to research design in areas of human motivation and learning.

662. **Workshop: Curriculum and Methods for the Mentally Retarded.** (2:8 hrs./day for 2 weeks) Su.

Study of curriculum and methods; the development of materials and teaching aids for the mentally retarded.

663. **Workshop: Curriculum and Methods for the Visually Handicapped.** (2:8 hrs./day for 2 weeks) Su.

Study of curriculum and methods; the development of materials and teaching aids for the visually handicapped.

664. **Workshop: Curriculum and Methods for the Gifted.** (2:8 hrs./day for 2 weeks) Su. Wilson

Study of curriculum and methods; development of materials and teaching aids for the gifted.

665. **Diagnostic and Therapeutic Services for the Orthopedically Handicapped.** (2:2:0) Su.

Study of community resources and procedures for the diagnosis of children with orthopedic handicaps and the ancillary therapy and treatment services provided for those children.

666. **Special Education Services in Public Schools.** (2:2:0) F.Su.

Problems of organization, administration and supervision of special education services in the public schools.

667. **Diagnosis of Achievement Difficulties.** (2:2:0) F.S.Su. Prerequisite: Grad. Ed. 560 or 645. Bauer, Harris

Survey and use of diagnostic techniques in identification and evaluation of learning difficulties.

668. Remedial Teaching Techniques. (2:2:0) F.S.Su. Prerequisite: Grad. Ed. 657 or consent of instructor. Bauer

Remedial procedures applicable to basic subjects with major emphasis in reading.

669. Guidance and Counseling for the Handicapped. (2:2:0) S.Su. Prerequisite: Tchr. Ed. 460.

Principles and techniques of guidance services for the physically, mentally or socially handicapped with study of effective counseling techniques. Required for California certification.

670A,B. Observation and Participation in Remedial Teaching. (2:1:4) Arr.

A—Corrective; B—Clinical

Observation and participation in classes of children with academic handicaps.

671. Practicum in Testing and Counseling. (5:2:10) F.S.Su. Prerequisite: consent of instructor. Kelly

673A,B. Practicum in Remedial Teaching. (2-4:1-2:4-8) F.S.Su. Prerequisites: consent of instructor and Grad. Ed. 670.

A—Corrective; B—Clinical.

Supervised experience in working with academically retarded children; including individualized program planning, remedial teaching techniques and evaluation. A fee of $15.00 for two semester hours and $25.00 for four semester hours is charged, payable upon application for practicum.

675. Organization and Administration of Public Schools. (3:3:0) F.S.Su. (m) Christensen, Morrill

An introduction to the principles, practices, and procedures in modern public school administration. Particular emphasis on the problems and responsibilities of the school administrator.

677. Public School Finance. (2:2:0) F.S.Su. (m) Burrup, Christensen

Designed with emphasis on theory, principles, and general practices of public school finance. Major emphasis includes understanding the problems of financing education; budgeting; equalization; management of school funds; the role of the local, the state, and the federal government in the financing of public education. (Special attention is given to Utah finance structure and problems.)

678. The Elementary School Principalship. (3:3:0) F.S.Su. (m) Harms

A study of the duties and role of the elementary school principal in providing leadership in the education of children and of the problems of elementary school administration. Required for advanced degrees and for certification in elementary school administration.

679. The Secondary School Principalship. (3:3:0) F.S.Su. (m) Burrup, Ovard

Understanding the leadership role of the principal in organizing and adapting the secondary school program to the educational needs of youth.

680. Field Work in Educational Administration. (3:1:4) F.S.Su. (m) Clarke, Harms

Intended to provide practical work experience on the job.

Students planning to register for 680 should obtain consent of the instructor six weeks prior to registration.

682. Personnel Problems of the School Staff. (2:2:0) S.Su. (m) Barnett, Christensen

The meaning and scope of personnel problems.

685. Supervision of Education. (3:3:0) F.S.Su. (m) Harms, Moffitt

Development of an understanding of the principles of supervision, curriculum, planning and in-service training in the improvement of instruction.

687. **School Law.** (2:2:0) F.Su. (m) Burrup, Barnett
Treats the following areas and their relationship and function with education in the U.S.: legal terms as applied to education; origin and functional aspect of the law as it affects public education; parochial schools and public-financed educational institutions; organization and administration, legal aspects of state and local district school finance, personnel and pupil administration, and school boards.

690A,B,C. **Seminar.** (2:2:0 ea.) F.Su. (m)
A—Counseling; B—Special Education; C—Educational Psychology.

693, 694. **Independent Readings.** (1-2:3-6:0 ea.) F.S.Su. (m)

696, 697. **Independent Research.** (1-2:3-6:0 ea.) F.S.Su. (m)

698. **Field Project.** (2-4:Arr.:Arr.) F.S.Su.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

706. **Objectives and Programs of Continuing Education.** (2:2:0) Su. Shute

709. **Philosophy of Program Planning.** (2:2:0) S. Alley

721A,B,C. **Internship in Elementary Education.** (2-4:1-2:2-4 ea.) F.S.Su.
Daines, Ord
A—Instruction; B—Curriculum; C—Supervision.
Involvement for a prolonged period of instructional experimentation, curriculum development, or supervision of inservice teachers in a school district recognized for the excellence of its instruction and curriculum. Emphasis is placed on the planning and implementation of experimental and development work under the supervision of highly qualified graduate instructors.

722A,B,C. **Internship in Secondary Education.** (2-4:1-2:2-4 ea.) F.S.Su.
Belt, Callahan
A—Instruction; B—Curriculum; C—Supervision.
Involvement for a prolonged period of instructional experimentation, curriculum development, or supervision of inservice teachers in a school district recognized for the excellence of its instruction and curriculum. Emphasis is placed on the planning and implementation of experimental and development work under the supervision of highly qualified graduate instructors.

727. **Curriculum of the Public Schools.** (2:2:0) S.Su.
Callahan, Daines, Smith
Study of (1) problems of articulation among all public school levels; (2) the continuity of the curriculum from one level to another; (3) the concerns of curriculum construction.

731. **System Analysis and Design in Education.** (2:2:0) F.Su. Egbert
The systems approach and its application to the analysis and design of educational systems. Includes procedures for introducing new media and methods in education.

740. **Advanced Counseling Theory.** (2:2:0) F.Su. Prerequisites: Grad. Ed. 646, Psych. 550. Anderson
Advanced work in counseling theory. Includes an intensive study of the various theories and their application to counseling.

741. **Practicum in Counseling.** (3:1:8) S. Prerequisite: consent of instructor.
Anderson
Experience in counseling in a center. Open only to advanced doctoral students.

745. **Internship in School Psychology.** (2-4:1-2:4-8) Arr. Prerequisite: consent of instructor. Harris, Moses
Supervised practice in testing, diagnosis, and case work with children in the public schools. Variety of community experiences related to school psychology work.

755A,B. **Internship in Educational Psychology.** (4:2:8) F.S.Su. Prerequisite: consent of department chairman.

A—Special Education; B—Research.

Supervised practice in one or more of the following settings: schools, clinics, hospitals or laboratories. This experience will help prepare the student for advanced professional service in his special field.

760. **Problems of Elementary School Administration.** (2:2:0) Su. (m) Harms

Offered Fall and Spring Semester, alternate years, starting fall, 1966.

A study of the problems, issues, and areas of difficulty encountered by the elementary school principal.

761. **Problems in Secondary School Administration.** (2:2:0) Su. Clarke, Ovard

Offered Fall and Spring Semester, alternate years, starting fall, 1966.

This course would identify and select major problems of the modern secondary school principal and be concerned with the systematic and wise solution of major problems which affect the operation of the school.

762. **The Junior High School.** (2:2:0) S.Su. (m) Clarke, Ovard

History, purposes, organization, present practices and problems.

763. **The Senior High School.** (2:2:0) F.Su. Clarke, Ovard

Purposes, organization, curriculum.

765. **Business Administration of the Public Schools.** (3:3:0) Su. (m) Burrup

Covers the functions, organization and structure of business administration in public schools. Emphasis on income, budget preparation, auditing and central office business procedures.

768. **Leadership Functions in Educational Administration.** (3:3:0) F.S.Su. (m) Christensen, Morrill

A study of developmental leadership theory concepts, and strategies essential to successful administration processes, with opportunity for some leadership experiences provided.

769. **School-Community Relations.** (2:2:0) S.Su. Morrill

Offered fall and spring, alternate years, starting fall, 1966.

The introduction and development of concepts, principles, and techniques in the organization, initiation, and operation of a planned program of school-public relations.

770. **Organization and Administration of Continuing Education.** (2:2:0) S.Su. (m) Shute

771. **College and University Organization and Administration.** (2:2:0) F. (m) (Offered alternate years) Oakes, Smith

773. **Public School Building Programs.** (3:3:0) S.Su. (m) Morrill, Ovard

Principles, problems and practices in the planning, organization and administration of public school building programs.

775. **Educational Administrative Theory.** (3:3:0) F.S.Su. (m) Christensen, Oakes

Designed to provide insights into the development of a theory of educational administration in relation to the practical or empirical administrative functions.

780. **Internship in Educational Administration.** (2-6:0:6-18) F.S. Burrup, Christensen

790. **Seminar.** (2:2:0) F.Su. Prerequisite: consent of instructor.

A—Educational Administration; B—Educational Measurement; C— Curriculum and Instruction.

791. **Seminar.** (2:2:0) S.Su. Prerequisite: consent of instructor.

A—Educational Administration; B—Educational Measurement; C—Curriculum and Instruction.

798. **Field Project for Ed.D. Degree.** (Arr.) F.S.Su.

799. **Dissertation for Ph.D. Degree.** (Arr.) F.S.Su.

Guided Studies

Professor: Reid (chairman, A-245 ASB).

Assistant Professor: Herlin.

Many students entering universities are not well equipped to do the academic work required of them. The purpose of the Department of Guided Studies of General College is to provide assistance that will enable such students to compete more effectively in their academic endeavors. Improvement is often necessary in such skills as reading, writing, mathematics, spelling, and effective study.

The Department of Guided Studies has a special obligation to students entering the University on academic warning. Specific policies and procedures which have a bearing on these students are listed below:

1. They are required to enroll in General College in this department regardless of their class standing at the time of admission.
2. They are encouraged to limit their course load for the first semester.
3. They are given special diagnostic tests to determine the nature and extent of their academic handicap.
4. They are required to take Guided Studies 101, Effective Study and Adjustment to College, during the first semester they attend the University.
5. Under the jurisdiction of the Department of Guided Studies they will be directed by specially selected advisers. The advisers have accepted the responsibility of meeting these probationary students at frequent regular intervals in an effort to help them work out the specific adjustment problems which arise during the first semester at the University. If students do not achieve the minimum academic standards of their class, they will continue to work with their adviser in the Department of Guided Studies for the next semester.
6. Students who maintain a B.Y.U. cumulative grade-point average equal to or above the minimum standard for their class (1.75 for freshmen and 2.00 for sophomores, juniors, and seniors) may register in any college or department in the University. They must, however, meet the standards for admission set by the department or college of their choice.

Listed below are the classes currently offered by the University as remedial courses. Enrollment in these courses is not restricted to students on academic warning or probation. The one exception is Guided Studies 101, which is limited to students on academic warning during the first semester of each year. Many students can profit academically by availing themselves of these classes and are encouraged to do so in an effort to meet their own study-skills needs. For detailed course listings see the appropriate departments.

English 10. Preparatory English
English 15. Remedial English for Juniors
English 55, 56. English for Bilingual Students
Speech 60. Remedial Speech
Mathematics 51. Plane Geometry
Mathematics 97. Review Course

Reading Laboratory. The Reading Laboratory is administered by the Department of Guided Studies. It was created to help students who need to build speed and comprehension in reading. Students are encouraged to avail themselves of the opportunity to learn how to read better and faster. The service is available without charge to all full-time students.

As indicated in the course description below, Guid. Stud. 21 is a noncredit course, and primary motivation for participation is self-improvement. Guid. Stud. 121 is a college level class and carries one unit of credit.

On a fee basis, Division of Continuing Education of the University offers a developmental reading course similar to Guid. Stud. 21. Students may avail themselves of this course by contacting Division of Continuing Education.

Courses

15. **Remedial Spelling.** (0:2:0) F.S.
Improvement of ability to spell through the study of such techniques as spelling rules, prefixes, suffixes, roots, and use of the dictionary.

20x. **Developmental Reading.** (0:2:0) Home Study only.

21. **College Preparatory Reading.** (0:1:1) F.S.Su. Herlin
Assists the high school graduate in strengthening fundamental skills of reading comprehension, vocabulary, and speed. A diagnostic study is made of individual reading deficiencies.

101. **Effective Study and Adjustment to College.** (1:3:0) F.S.Su. Home Study also.
Course covers such areas as budgeting time, notetaking, reading, listening, use of library, how to take examinations, motivation, and concentration. Time is also spent in studying the application of psychological principles to typical problems of college students.

121. **College Developmental Reading.** (1:1:1) F.S.Su. Prerequisite: Reading above 20th percentile on freshman reading norms or completion of Guid. Stud. 21. Herlin
Designed for the student who desires to increase his reading efficiency. Attention is given to speed and comprehension, and to vocabulary as it relates to rapid reading.

Health and Safety Education

Professors: Watters (chairman, 213 RB), Hartvigsen.

Associate Professor: Shaw.

Assistant Professors: Hirschi, Robison, Tuckett.

Instructors: Burgener, James, Rhodes, Rollins, Salazar.

Health Education Major. Students majoring in health education will take the following courses: Health 121, 325, 381, 451, 460, 521, 552; also the following courses from other departments or their equivalent: Food & Nutr. 115; Zool. 261 and 262; Psych. 340; and at least 8 hours from the following courses: Health 501, 530, 560, 561; Bact. 311; Psych. 185; and Sociol. 403. The student's program is to be established through consultation with an adviser from the Department of Health and Safety Education.

Health Education Dominant-Related. Students may select a composite major or related field in health education by completing the following courses: Health 121, 381, 460, 521; and at least 11 hours selected from the following: Food & Nutr. 115; Bact. 311; Psych. 321, 340; Health 325, 451, 501, 552, 560, 561. The student's program is to be established through consultation with an adviser from the Department of Health and Safety Education.

Health Education Minor. Students may select a minor in health education by completing the following courses: Health 121, 381, 460, 521; and 7 hours selected from the following courses: Health 325, 451, 552, 560, 561; Psych. 340; Food & Nutr. 115. Students should consult an adviser from the Department of Health and Safety Education.

For further information see Teacher Education Certification list.

Driver and Safety Education Minor. Students may minor in driver and safety education and qualify for state certification by completing the following: Health 121, 325, 444, 445; and six hours selected from the following courses: Health 401, 460, 521, 530; and Psych. 321. The student's program is to be established through consultation with an adviser from the Health and Safety Education Department.

Suggested Course Outline

First Year

	F	S
Engl. 111, 112	3	3
Undergrad. relig.	2	2
P.E.	½	½
Health 130	2	
Hist. 170	3	
Chem. 101		5
Bact. 121	3	
Zool. 105		3
Psych. 111		3
Engl. 250	3	
Total Hours	16½	16½

Second Year

	F	S
Sociol. 111	3	
Undergrad. relig.	2	2
P.E.	½	½
Zool. 261		3
Zool. 262		2
Health 121		2
Health 451	2	
Hum.	3	
Sociol. 403		2
Minor	4	4
Elective	2	2
Total Hours	16½	17½

Third Year	F	S
Health 381	3	
Psych. 340	2	
Health 460		2
Health 325	2	
Undergrad. relig.	2	2
Tchr. Ed. 301	2	
P.E. 377		3
Tchr. Ed. 406		2
Health 521		2
Health 560	2	
Health 530		2
Minor	4	3
Total Hours	17	16

Fourth Year	F	S
Tchr. Ed. 310	2	
Tchr. Ed. 415	2	
Undergrad. relig.	2	2
Tchr. Ed. 479	8	
Health 362	2	
Health 552		2
Tchr. Ed. 403		4
Health 561		3
Minor		6
Total Hours	16	17

Courses

10. Beginning Drivers' Laboratory. (0:0:2) S.Su. James
Noncredit course. Driver education for beginning drivers. Used as a laboratory in conjunction with Health 445. No driving experience required. Fee $10.00.

☐**Food and Nutrition 115. Essentials of Nutrition.** (2:2:0)

121. First Aid and Safety Instruction. (2:2:0) F.S.Su. (m)
Principles and practices in emergency care and first aid procedures for injuries. American Red Cross certificate given upon successful completion of course.

130. Personal Health. (2:2:0) F.S.Su. (m) Home Study also.
Intended to develop adequate knowledge of health and illness and desirable health attitudes and practices. University health requirement. Required of all freshman students. May be taken either semester during freshman year.

☐**Psychology 185. Physiological Psychology.** (3:3:0)

☐**Zoology 261. Elementary Human Physiology.** (3:3:0)

☐**Zoology 262A. Anatomy and Physiology Laboratory.** (2:0:4)

☐**Bacteriology 311. Sanitation and Public Health.** (2:2:0)

325. Safety Education. (2:2:0) F.S.Su. Home Study also. (m) James, Watters
Comprehensive course covering all major areas of general safety including school, playground, home, farm, industrial, and traffic safety.

☐**Psychology 321. Psychology of the Adolescent.** (2:2:0)

☐**Psychology 340. Mental Hygiene.** (2:2:0)

361. School Health for Elementary Teachers. (2:2:0) F.S.Su. Home Study also. Prerequisite: Health 130.
Fundamental principles of the school health program and their application in elementary teaching. Designed for those preparing to teach in the elementary school.

362. School Health for Secondary Teachers. (2:2:0) F.S.Su. Home Study also. Prerequisite: Health 130.
Fundamental principles of the school health program and their application in secondary teaching. Designed for those preparing to teach in secondary school.

☐**Botany 376. Genetics.** (3:3:0) Prerequisite: Bot. 101 or Zool. 105.

☐**Zoology 376. Genetics.** (3:3:1)

381. **Program Planning in Secondary Health Education.** (3:3:0) F.S. (m) Watters
Emphasis on the role of the health specialist in integrated and concentrated programs; a study of functions, program planning, and resource materials related to school health education.

401. **Driver and Safety Education Workshop.** (1-2:30:18) Su. Prerequisite: certified driver education instructor or consent of instructor. James
Intended primarily for extension and/or summer school. Involves a presentation of current driver education and safety problems. A review of latest research and methods of instruction in driver and safety education.

402. **Workshop in Safety in Outdoor Recreation.** (2:1:3) Su.
Consideration of outdoor recreation problems, programs and leadership skills.

☐**Nursing 425. Home Nursing Instructorship.** (2:2:1)

444. **Driver Education Planning.** (2:2:0) F.Su. (m) Recommended: Health 325. James
Organization, administration, and supervision of high school driver education programs.

445. **Driver and Traffic Education.** (4:2:4) S.Su. (m) Recommended: Health 325, 444. James
Knowledge, attitudes, and skills related to driving. Behind-the-wheel instruction, fitness of drivers, cost and care of car, traffic codes and nature's laws, highways and freeways, and adverse conditions of driving.

451. **School Health and Community Relations.** (2:2:0) S. Recommended: Health 361 or 362. Burgener
Designed to increase understanding of the health relationships between the school and the community, including principles of community cooperation, disease prevention and control, and general methods of health promotion.

460. **Alcohol and Narcotic Education.** (2:2:0) F.S. Rhodes
The nature and effects of alcohol and narcotics on the human organism. The alcohol and narcotics problem will be considered from a physiological, psychological, and sociological viewpoint as well as the educational and legal aspects related to individual conduct and relationships. The development of a correlated attack on this national health problem will be emphasized.

☐**Zoology 465. Animal Physiology.** (4:4:3)

479. **Secondary Student Teaching.** (8:8:0) F.S. Watters

501. **Health Education Workshop.** (1-2:Arr.:0) F.S.Su.
Intended primarily for extension credit and/or summer school. Involves a presentation of health education problems followed by discussions. Conducted on a workshop basis.

521. **Evaluation and Selection of Health and Safety Material.** (2:2:0) F.S. (m) Prerequisite: Health 381. Shaw
Pamphlets, brochures, films, textbooks, and other school health resource materials are evaluated and selected for present and future use.

530. **First-Aid Instructorship.** (2:2:1) F. (m)
Designed to qualify instructors in Red Cross first aid, so that they may conduct classes to qualify individuals for standard and advanced Red Cross cards.

☐**Psychology 540. Abnormal Psychology.** (3:3:2)

☐**Graduate Education 550. Introduction to Guidance Services.** (2:2:0)

551. **Field Work in Community Health.** (2:Arr.:Arr.) S.Su. Recommended: Health 451.
Designed to broaden understanding of community health agencies, their roles, programs, and relationships. This is accomplished by field introductions to the various official and voluntary health agencies, followed by the selection of agencies in which to do field work during the semester.

552. **School Health Organization and Services.** (2:2:0) S. (m) Shaw
Considers desirable school health services, functions and relationships to public education and educational law. Coordinates school health services with community programs.

☐**Graduate Education 552. Statistical Methods.** (2:2:0)

560. **Stimulants and Depressants.** (2:2:0) F. (m) Prerequisite: course in general chemistry, P.E. 334, or equivalent.
The physiology and biological chemistry of stimulants and depressants.

☐**Graduate Education 560. Educational Tests and Measurements.** (3:3:0)

561. **Health of the Body Systems.** (3:3:0) S. (m) Recommended: Health 560, or equivalent.
Advanced course in personal health dealing with the major factors in health and disease as they involve the several body systems.

☐**Sociology 580. Social Relations in Medical and Health Organizations.** (2:2:0)

☐**Physical Education 635. Measurement and Evaluation of Physical and Health Education.** (3:3:0)

☐**Graduate Education 646. Counseling Theory and Practice.** (3:3:0)

☐**Zoology 662. Advanced General Physiology.** (2:1:2)

☐**Physical Education 662. Administration and Public Relations.** (3:3:0)

691. **Graduate Seminar.** (0:Arr.:Arr.) Watters
A seminar for graduate students in health and safety education. Reviews course work, testing procedures, professional agencies, and current trends in health education. All graduate students in health and safety education must register each semester.

692. **Research Methods in Health and Safety Education.** (3:3:0) Arr.

693. **Research in Health Science.** (2:1:2) F.S.
Independent and/or directed research in problems associated with the health sciences. This course gives credit to those graduate students involved in directed or independent research from grant-in-aid, fellowship, or contract grant support.

694. **Seminar in Readings.** (2:2:0) F.S.Su.

696. **Seminar in Problems.** (1:1:0) F.S.Su.

698. **Field Project.** (1-4:Arr.:Arr) F.S.Su.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.)

☐**Graduate Education 709. Philosophy of Program Planning.** (2:2:0)

History

Professors: Campbell (chairman, 336 M), Hafen, Poll, Swensen.

Associate Professors: Addy, Allen, Hyer, Jensen.

Assistant Professors: Alexander, Bushman, Cardon, Marlow, Warner.

Requirements for a Major

A history major requires the completion of 30 hours of work in this field. Courses required are Hist. 110, 111, 120 and 121, normally taken in the freshman and sophomore years; Hist. 388, junior year; Hist. 400, senior year. Majors who seek certification in secondary education are also required to take Hist. 366. The remaining elective hours should be selected in consultation with the department adviser. Not more than 12 hours of lower division work in history may be applied toward the major.

A comprehensive examination is given to all majors in conjunction with Hist. 400.

A student deciding to major in history should immediately consult the chairman of the department, who will assist in the selection of a minor field.

The requirements for a teaching major in history and for the composite major in social sciences which includes history are found in the College of Education Section.

Suggestions for a Minor

A history minor requires 17 hours of course work **not** including Hist. 170. At least 6 hours must be chosen from Hist. 110, 111, 120, and 121.

For the requirements for a teaching minor in history, see College of Education.

American History and Government Requirement

For details concerning the American history and government requirement, see "Requirements for Graduation" in the Student Academic Services Section of this catalog.

Courses

110. **World Civilization I.** (3:3:0) F.S.Su. Home Study also. (G-SS m)
Beginning of major world civilizations and their development to approximately 1500 A.D., with emphasis on Europe.

111. **World Civilization II.** (3:3:0) F.S.Su. Home Study also. (G-SS m)
Development of major world civilization since 1500 A.D., with emphasis on Europe.

120. **The United States to 1865.** (3:3:0) F.S.Su. Home Study also. (G-SS m)
Discovery and colonization, the American Revolution, establishment of the Constitution, foreign affairs, westward expansion, sectionalism, and the Civil War.

121. **The United States Since 1865.** (3:3:0) F.S.Su. Home Study also. (G-SS m)
Civil War and reconstruction, industrialization and urbanization, American imperialism, progressivism, world wars, New Deal, and current problems.

170. The American Heritage. (3:3:0) F.S.Su. Home Study also.
Growth of the United States under the Constitution, with emphasis on political ideas and institutions and the adaptation of the governmental system to America's role as an industrial and world power.

☐**Economics 274. Economic History of the United States.** (3:3:0) (G-SS m)

300. Early Oriental History. (2:2:0) F. (G-SS m) Meservy
Ancient Egypt, Babylonia, Assyria, Arabia, Persia and Palestine.

304. Greek History and Civilization. (3:3:0) F. (G-SS m) Swensen
Survey of Hellenic and Hellenistic developments from early beginnings to the Roman conquest.

307. Roman History and Civilization. (3:3:0) S. Anderson, Swensen
Survey of the rise of the Roman Republic, the transition to empire and the decline and fall of the Western Roman Empire.

311. History of the Middle Ages. (3:3:0) S. (G-SS m) Swensen
Survey of the political, economic, and cultural developments in western Europe from 500 to 1300 A.D.

312. The Renaissance: Age of Transition. (2:2:0) F. Home Study also. (G-SS m) Jensen
The literary and artistic reawakening of Italy, the rise of commercial capitalism, beginning of the European states system, and the overseas expansion of Europe.

313. The Reformation: Age of Turmoil. (2:2:0) S. Home Study also. (G-SS m) Jensen
The political, economic, and cultural effects of the great sixteenth century religious upheaval, with its ensuing ideological struggles to mid-seventeenth century.

320. Eighteenth Century Europe. (2:2:0) F. (Offered 1966-67 and alternate years) Addy
Survey of developments in Europe from approximately 1618 to the beginning of the French revolution including developments of political thought, science and philosophy in the Enlightenment.

322. Nineteenth Century Europe. (2:2:0) F. (Offered 1967-68 and alternate years) Cardon
Political, economic, social, and intellectual history of Europe from 1815-1914.

323. Europe in the Twentieth Century. (2:2:0) S. Home Study also. (G-SS m) Cardon
Emphasis on European international affairs and on the political and economic history of the major European countries (including Russia) from World War I to the present.

326. Western Civilization I. (1-3:Arr.:Arr.) F.S.Su. (m)
Limited to participants in the B.Y.U. Travel-Study Program.

327. Western Civilization II. (1-3:Arr.:Arr.) F.S.Su. (m)
Limited to participants in the B.Y.U. Travel-Study Program.

330. Russia and Eastern Europe Before 1900. (3:3:0) F. (m) Morrell
Survey of Russian history from early beginnings to end of the nineteenth century.

331. Russia and Eastern Europe Since 1900. (3:3:0) S. Home Study also. (m) Mabey
Survey of modern Russia with special emphasis on the rise of communism and the development of the USSR.

332. **France Since 1610.** (3:3:0) F. Home Study also. (m) Jensen
Focuses on the important French contributions to modern thought, culture and institutions during the old regime and especially since the French Revolution.

333. **Modern Germany.** (3:3:0) S. Home Study also. (m) Jensen
The political, military, economic, and cultural developments of Germany during the nineteenth and twentieth centuries, with emphasis on the problem of German relationship to Western society.

334. **Spain.** (3:3:0) F. (Offered 1966-67) (m) Addy
Political, social and economic factors in Spanish history. Emphasis on the period since 1492.

335. **England.** (3:3:0) F.S.Su. (G-SS m) Home Study also. Cardon
General English history from Roman era to the present. Development of English legal and political institutions, the Empire-Commonwealth, industrial revolution, recent problems and trends.

340. **Asian Civilization.** (3:3:0) F. (G-SS m) Hyer
Beginning of the traditional civilizations of China, India, and Japan and their development until the coming of the West.

341. **Modern Asia.** (3:3:0) S. (m) Hyer
Impact of the West on Asian societies and their response. Main emphasis on the change of tradition, imperialism, nationalism, and communism in China, Japan and India.

343. **Formative Period of Chinese Civilization.** (3:3:0) F. (m) Hyer
Development of China to recent times, with emphasis on social and cultural factors.

344. **Modern China.** (3:3:0) S. Home Study also. (m) Hyer
Emphasis on the development of China in the twentieth century, including the fall of the Manchu Dynasty and the rise of the Chinese Communists.

346. **Japan.** (3:3:0) S. (Offered 1967-68 and alternate years) (m) Hyer
Survey of Japanese history with emphasis on the development of Japan since contact with the West.

347. **India.** (2:2:0) S. (Offered 1966-67 and alternate years) (m) Hyer
Survey of the history of India including the effects of Hinduism and Islam on the political, economic and cultural development.

351. **History of Latin America I.** (3:3:0) F. Home Study also. (G-SS m) Addy
Colonial period, geography, pre-Columbian civilization, conquest, and institutional development from 1492 to 1800.

352. **History of Latin America II.** (3:3:0) S. Home Study also. (G-SS m) Addy
National period. The wars of independence, evolution of modern republics, inter-American relations, and institutional development from 1800 to the present.

☐**Political Science 357. Government and History of Canada.** (3:3:0)

360. **The American Frontier.** (2:2:0) F.S. Home Study also. (m)
Alexander, Allen, Warner
Highlights and significance of the westward movement in American history (primarily for elementary education majors).

362. **American Westward Movement to 1825.** (3:3:0) F. Hafen, Warner
Emphasis on the early colonization and westward movement east of the Mississippi.

363. **American Westward Movement after 1825.** (3:3:0) S. Allen, Hafen
Emphasis on the fur trade and colonization in the trans-Mississippi West.

364. **The Indian in American History.** (2:2:0) S. (Offered 1965-66 and alternate years) (m) Hafen
Survey of the major developments in the history of the leading Indian tribes including their migrations and their relationship to the United States government.

365. **California.** (2:2:0) S. Home Study also. (m) Warner
Survey of the Spanish, Mexican and American periods in California history with emphasis on developments since the gold rush.

366. **Utah.** (2:2:0) F.S. Home Study also. (m) Alexander, Campbell, Larson, Poll
Emphasis on the Utah territorial period and the Mormon contribution. Not open to freshmen or sophomores.

370. **Colonial America.** (3:3:0) F. (m) (Offered 1966-67 and alternate years) Backman
The foundation of colonies in America, Anglo-American conflict and the revolution, the Confederation and the Constitution.

372. **Founding of the American Republic.** (3:3:0) F. (m) (Offered 1966-67 and alternate years) Bushman
Political, social and economic factors that led to American revolution, and the establishment of the Republic, first under the Articles of Confederation, then under the Constitution.

375. **The American Republic, 1800-1850.** (3:3:0) S. (m) (Offered 1966-67 and alternate years) Campbell
Political, social, economic, and diplomatic development and westward expansion during the Jeffersonian, and Jacksonian Eras.

377. **Civil War and Reconstruction.** (2:2:0) (m) (Offered 1967-68 and alternate years) Poll
The Civil War as the testing of the American political system and as a problem in historical causation.

378. **The Emergence of Modern America.** (3:3:0) F. (m) (Offered 1966-67 and alternate years) Alexander, Marlow
The transition of the United States from a rural and agrarian to an urban and industrial society, and the rise of the United States to world power.

379. **Contemporary United States History.** (3:3:0) S. (G-SS m) Marlow
An examination of the major domestic and foreign problems of the United States in four crucial decades, with special emphasis on their relevance for contemporary society.

381. **U.S. Intellectual and Social History to 1865.** (2:2:0) F. (m) Bushman, Marlow
Life and thought in the United States to the Civil War.

382. **U.S. Intellectual and Social History since 1865.** (3:3:0) S. (m) Bushman, Marlow
Life and thought in the United States from the Civil War to the present.

384. **U.S. Diplomatic History.** (3:3:0) Arr. Melville

385. **American Constitutional History.** (3:3:0) Arr. Melville

388. **Historiography.** (3:3:0) F.S.Su. (m) Purdy, Swensen
Fundamental problems and types of historical analysis and interpretation, philosophies of history, and work of outstanding historians.

400. **Historical Research and Writing.** (3:3:0) F.S.Su. Prerequisite: Hist. 388.
Sources, materials and methods of historical research and writing, including critical analysis of research project. Required of all history majors in the senior year.

453. Mexico and the Caribbean. (3:3:0) S. (Offered 1966-67 and alternate years) Warner
Social, economic and political developments in Mexico and in the Latin American States of the Caribbean Sea area.

454. Argentina, Brazil and Chile. (3:3:0) S. (Offered 1966-67 and alternate years) Addy
Social, economic and political development of these principal Latin American states since 1820.

☐**Economics 471. European Economic History.** (3:3:0)

497. Honors Readings. (1-2:0:Arr.) F.S.Su.

498. Directed Readings. (1-2:0:Arr.) F.S.Su.

606. Greek Thought. (2:2:0) S. (Offered 1966-67 and alternate years) Swensen
Study of Greek intellectual and philosophical thought, and its relationship to Greek institutions.

607. Greek and Roman Historians. (2:2:0) F. (Offered 1966-67 and alternate years) Swensen
A critical study and reading of the works of these ancient historians, an evaluation of their historical methodology and interpretation, and their relations to their historical background.

612. Medieval Thought and Culture. (3:3:0) S. (Offered 1966-67 and alternate years) Swensen
Study of the basic Medieval achievements in philosophy, science, theology, literature, and education.

618. Problems in Early Modern Europe. (3:3:0) F. (Offered 1966-67 and alternate years) Jensen
Extensive reading, analysis and interpretation of selected historical problems of the sixteenth, seventeenth, and eighteenth centuries.

621. Problems in Modern Europe. (3:3:0) F. (Offered 1967-68 and alternate years) Cardon
Extensive reading, analysis, and interpretation of selected historical problems of the nineteenth and twentieth centuries.

625. European Diplomatic History Since 1815. (2:2:0) S. (Offered 1967-68 and alternate years) Cardon
Interprets "diplomacy" broadly. Emphasis on the relationship between European diplomatic history and the domestic history of the major world powers, including the U.S. and Russia.

628. European Thought and Culture to 1800. (2:2:0) F. (Offered 1966-67 and alternate years) Jensen
Intellectual and cultural movements of the 16th-18th centuries. Emphasis is on humanism, Reformation ideologies, the rise of scientific thought, Rationalism and the Enlightenment.

629. European Thought and Culture Since 1800. (2:2:0) S. (Offered 1967-68 and alternate years) Cardon
The most influential intellectual and cultural movements of the 19th and 20th centuries, their forms of expression, and their impact on the contemporary world.

640. The Far East. (2:2:0) S. (Offered 1967-68) Hyer
Extensive reading, analysis and interpretation of selected problems of Asian development with emphasis on China, Japan, and India.

648. Culture of Asia. (2:2:0) S. (1967-68) F. (1967-68) Hyer
Reading in depth and discussion of problems in Asian culture.

650. **Latin America.** (2:2:0) F. (Offered 1965-66 and alternate years) Addy
An advanced study of the generalized historical development of Latin America—colonial and national periods considered.

656. **Southwestern United States.** (2:2:0) S. (Offered 1967-68 and alternate years) Hafen, Warner
Selected problems in the area of Spanish colonization and United States fur trappers.

665. **The Rocky Mountain West.** (2:2:0) S. (Offered 1966-67 and alternate years) Alexander, Allen
Political and economic development of Arizona, Colorado, Idaho, Montana, Nevada, Wyoming, and Utah. Emphasis on sources and problems.

666. **Problems in Utah History.** (2:2:0) F. (Offered 1966-67) S. (Offered 1967-68) Alexander, Campbell, Poll
Reading in depth in the documents and discussion of interpretations of important events in Utah history.

667. **Northwestern United States.** (2:2:0) S. (Offered 1966-67 and alternate years) Allen, Hafen
History of the Oregon Territory as it developed into the states of Washington, Oregon, and Idaho.

670. **Readings in Colonial America and the Revolution.** (3:3:0) F. (Offered 1967-68 and alternate years) Backman, Bushman

672. **Problems in the Foundation of the American Republic.** (2:2:0) F. (Offered 67-68 and alternate years) Bushman
Reading in depth and discussion of major problems in American history between 1763 and 1800.

675. **Problems in the Early American Republic (1800-1848).** (3:3:0) S. (Offered 1966-67) Campbell

677. **Problems in Civil War and Reconstruction.** (3:3:0) F. (Offered 1966-67) Poll

678. **Problems in the Emergence of Modern America (1880-1920).** (3:3:0) S. (Offered 1967-68 and alternate years) Alexander, Marlow

679. **Problems in Contemporary American History.** (3:3:0) F. (Offered 1966-67 and alternate years) Marlow, Poll

685. **Historical Geography of United States.** (2:2:0) F. (Offered 1966-67 and alternate years)
The bearing of climate, resources, and other geographical factors upon American development.

690. **Special Studies in History.** (2:2:0) F. (Offered 1966-67) S. (Offered 1967-68)
Advanced research and analysis of important historical problems and movements.

☐**Economics 691. Seminar in Economic History.** (2:2:0)

693A,B,C,D. European Seminar to 1800. (2:2:0 ea.) S. Addy, Jensen

694A,B,C,D. European Seminar Since 1800. (2:2:0 ea.) S. Cardon

695A,B,C,D. Seminar in Western American History. (2:2:0 ea.) S. (Offered 1966-67) S. (Offered 1967-68)

696A,B,C,D. Seminar in United States History. (2:2:0 ea.) F. (Offered 1966-67) F. (Offered 1967-68)

697. **Seminar in Utah History.** (2:2:0) S. (Offered 1966-67) F. (Offered 1967-68)

698. **Special Readings in History.** (1-2:0:Arr.) F.S.

699. **Thesis for Master's Degree** (6-9:Arr.:Arr.) F.S.

799. **Dissertation for Doctor's Degree.** (1-4:0:Arr.) F.S.

Homemaking Education

Assistant Professor: V. Poulson (chairman, 2230-A SFLC).

Instructors: Calder, Huff.

The Department of Homemaking Education offers a (composite) major-minor in home economics leading toward a B.S. degree and vocational certification from the State Department of Public Instruction to teach homemaking in the junior and senior high schools in the United States.

The major purpose of homemaking education is to prepare students to adapt knowledge in all areas of home economics to teaching youth in secondary schools. Study in this department also has value to the student by preparing her with a general background of knowledge that can be applied to other professional aspects of home economics. The graduate gains personally as she develops toward greater personal fulfillment and enrichment in family living.

Students selecting this major should realize that the curriculum includes a broad program in all areas of home economics preceded by a fairly intensive background in the physical and biological sciences. Due to the nature of the course work required and the time element involved, it is imperative that students seek advisement from the Homemaking Education Department at the earliest possible date.

For admission to the teacher education program, students are required to meet certain criteria: (1) Maintain a 2.25 grade-point average. (2) Pass a grammar test administered by the Teacher Certification Office.

1. **General Education Requirements—57-59 hours**
    - Freshman Engl. 4-6 hours
    - Biol. Sci.—6 hours
        - Bact. 121—3 hours
        - Zool. 105—3 hours
    - Hum. and Aesthetics—6 hours
        - Art 101 or 110—2 hours
        - Electives—4 hours
    - Foreign Language and Math.—6 hours
        - (If 10 hours of chemistry are taken, one other area such as Geol. 101 for 2 hours will complete this requirement. If a language is elected, three hours may be also used toward the humanities requirement. See adviser for further explanations.)
    - Health 130—2 hours
    - P.E.—2 hours
    - Undergrad. relig.—16 hours
    - Soc. Sci.—5 hours (University Requirements—3 hours)
        - Psych. 111—3 hours
        - CDFR—3 hours (Three credit hours from CDFR may be used for social sciences.)
    - Hist. 170—3 hours

Phys. Sci.—9 hours (University Requirements—6 hours)
Chem. 101—4 hours
Chem. 151—5 hours
(Three hours of chemistry will apply to foreign language and mathematics requirements.)

2. **College of Family Living Required Courses—61 hours**
   Home. Ed. 101, 374, 377, and 479—15 hours
   CDFR 210, 322, and 361—9 hours
   Nursing 425—2 hours
   Food & Nutr. 255, 264, 265, and 340—12 hours
   Hous. Home Mgt. 350, 351, (201 or *380) and 370—12 hours
   Clo. & Text. 110, 165, 260, and (335 or *Home. Ed. 521)—11 hours
   *These classes are recommended.

3. **Professional Education Courses—10 hours**
   Tchr. Ed. 301—2 hours
   Tchr. Ed. 310—2 hours
   Health Ed. 362—2 hours
   Tchr. Ed. 304, 415—2 hours each

Students desiring specialty in any of the departments of the College of Family Living should see their adviser for a program plan.

Suggested Program for Majors Desiring Certification

Freshman Year

	F	S
Undergrad. relig.	2	2
Engl. (composition)	3	3
For. & dev. assy.	1	1
P.E.	½	½
Chem. 101	4	
Chem. 151		5
Clo. & Text. 110		2
Health 130	2	
Art 110	2	
Psych. 111		3
Total Hours	14½	16½

Sophomore Year

	F	S
Undergrad. relig.	2	2
For. & dev. assy.	1	1
P.E.	½	½
Bact. 121	3	
Zool. 105		3
Home. Ed. 101	1	
CDFR 210	3	
Tchr. Ed. 301		2
Food & Nutr. 264, 265		5
Clo. & Text. 165	4	
Clo. & Text. 260		3
Hum.	2	
Total Hours	16½	16½

Junior Year

	F	S
Undergrad. relig.	2	2
Food & Nutr. 255	5	
Hous. & Home Mgt. 350	2	
Hous. & Home Mgt. 335	3	
Hous. & Home Mgt. 380		3
Hous. & Home Mgt. 351		2
CDFR 361	3	
Nurs. 425		2
Food & Nutr. 340		2
Home. Ed. 375		3
Home. Ed. 521		2
Hum.	2	
Total Hours	17	16

Senior Year

	F	S
*Undergrad. relig.	2	
*CDFR	3	
*Home. Ed. 377	3	
*Home. Ed. 479	8	
*Hous. & Home Mgt. 370		2
*Tchr. Ed. 304		2
*Tchr. Ed. 415		2
*Tchr. Ed. 310		2
Tchr. Ed. 362		2
Geol. 101		2
Elective		2
CDFR 322	3	
Total Hours	16	17

*Block courses—see adviser for arrangement.

Courses

101. Concepts of Homemaking Education. (1:1:0) F.S.

Basic concepts from science, art, and philosophy essential to an understanding of the composite homemaking curriculum as preparation is begun for teaching in secondary schools.

375. Curriculum Development in Homemaking Education. (3:3:0) F.S. Prerequisite: Home. Ed. 101.

Curriculum development, varieties of learning experiences, and comprehensive techniques are considered with preparation of illustrative material for aid in teaching secondary classes.

377. Secondary Teaching Procedures. (3:3:Arr.) F.S. Prereqisite: Home Ed. 375.

See Tchr. Ed. 377.

479. Secondary Student Teaching. (8:1:Arr.) F.S.

Supervised teaching carried on in an approved homemaking department of a public school. See Tchr. Ed. 479.

521. Workshop in Homemaking Education. (2:2 wks. 8 hrs./day) Su. Prerequisite: consent of instructor.

Intensive study of application of principles and theory in homemaking education.

530. Homemaking Education for Adults. (2:2:0) Su. Prerequisite: consent of instructor. V. Poulson

The principles, practices, programs, materials, and resources for teaching homemaking education to adults.

532. Evaluation in the Teaching of Homemaking Education. (2:2:0) Su. Prerequisite: Tchr. Ed. 479 and consent of instructor. V. Poulson

Analysis of evaluation techniques and construction of workable evaluation devices unique to the teaching of homemaking education.

630. Methods and Curriculum in Homemaking Education. (3:3:0) Su. Prerequisite: minimum of one year teaching experience. V. Poulson

Intensive study of methods of teaching and curriculum development for homemaking programs in the secondary schools.

HAS ALWAYS BEEN—A HUMAN RELATIONSHIP. IN THE END, IT'S THE TEACHER WHO MAKES THE DIFFERENCE.
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Students in homemaking education receiving expert instruction

Horticulture

Associate Professors: Reimschüssel (chairman, West Lewis House, 846 N. 5 E.), Ashton.

The Department of Horticulture offers undergraduate training in (1) fruit production (pomology), (2) floriculture and greenhouse management, (3) landscape maintenance, (4) ornamental horticulture and nursery management, or (5) turf management.

A student majoring in the Department of Horticulture must meet the entrance and graduation requirements of the College of Biological and Agricultural Sciences. Horticulture majors are required to take, preferably during the freshman and sophomore years, one course from each of the following areas: Agr. Econ. 112, 320, 325; Agron. 282, 302, 305; An. Sci. 161, 207 or 325.

A student planning to obtain an advanced degree is advised to take additional courses in chemistry, mathematics, and one year of foreign language, preferably French or German.

Students specializing in pomology are required to take the following: Hort. 101, 103, 310, 317, 350, 402, 455, 471. Recommended courses: Agron. 282, 302, 305, 451 and 459; Bot. 101, 276, 440, 450, 480; Chem. 105 and 106 or equivalent courses; Zool. 105 and 334. A four-year course outline is available from the department. A recommended course outline for the freshman and sophomore years is as follows:

Freshman Year

	F	S
Engl. 111, 112	3	3
Undergrad. relig.	2	2
P.E.	½	½
Health 130		2
Math. 105 and 106	3	3
Bot. 101	3	
Hort. 101	3	
Hort. 103		3
For. assy.	½	½
Dev. assy.	½	½
Hist. 170	3	
Total Hours	15½	17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Hort. 310		2
Bot. 276	3	
An. sci.		3
Engl. 250	3	
Agron. 282		3
Chem. 105, 106	4	4
Agr. Econ. 112	3	
For. assy.	½	½
Dev. assy.	½	½
Total Hours	16½	15½

Students emphasizing floriculture and greenhouse management are required to take the following: Hort. 103, 112, 207, 318, 402, 471; Agron. 282, 305, 459; Bot. 101, 112, 276, 321, 440, 480; Chem. 105 and 106; Zool. 105, 230, and 334 are recommended. If emphasis is placed on floral designing, the following courses are required: Hort. 103, 112, 207, 318; Art 110, 314, 415; Hous. & Home Mgt. 330 and 410. A recommended four-year course outline is available from the department. A recommended course outline for the freshman and sophomore years is as follows:

Freshman Year

	F	S
Engl. 111, 112	3	3
Health 130	2	
Bot. 101		3
P.E.	½	½
Undergrad. relig.	2	2
Hist. 170	3	
An. sci.		3
Agron. 282	3	
Hort. 103	3	
Hort. 207		3
Agr. Econ. 112		3
Total Hours	16½	17½

Sophomore Year

	F	S
Engl. 250	3	
Art 110	2	
P.E.	½	½
Undergrad. relig.	2	2
Bot. 276	3	
Zool. 105		3
Chem. 105	4	
Hort. 318		4
Hort. 112, 402	2	3
Soc. sci.		2
Total Hours	16½	17½

Suggested minor fields: agronomy, economics and sociology.

Students in ornamental horticulture and nursery management are required to take Hort. 101, 103, 207, 312, 317, 402, 430, and 471; Bot. 101, 105, 110, 440; Agron. 282, 302, 305, 451, 459; Zool. 105 and 334. (A four-year course outline is available from the department.) A course outline for freshmen and sophomores is as follows:

Freshman Year

	F	S
Engl. 111, 112	3	3
Health 130	2	
Bot. 101		3
P.E.	½	½
Undergrad. relig.	2	2
Hist. 170		3
An. sci.		3
Chem. 105	4	
Hort. 101	3	
Hort. 207		3
Agr. Econ. 112		3
Total Hours	17½	17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Engl. 250	3	
Art 110	2	
Bot. 105, 110	3	3
Zool. 105	3	
Geol. 111		4
Agron. 282	3	
Hort. 312		3
Hort. 317		2
Agron. 302		3
Total Hours	16½	17½

Suggested minor fields: agronomy, economics, sociology.

Students emphasizing landscape maintenance are required to take Hort. 101, 103, 312, 317, 402, 416, and 471; Agron. 282, 302, 451; Bot. 101, 110, 205, 440, 480; Chem. 105; Art 110. (A recommended course outline is available from the department.)

Students in turf management are required to take Hort. 103, 207, 319, 402, 471; Bot. 101, 105, 110, 440; Agron. 282, 305, 451, 459; Zool. 105 and 334. (A recommended course outline is available from the department.)

Students minoring in horticulture may select 14 hours from the following: Hort. 101, 103, 207, 310, 312, 319, 350, 402; Bot. 205; Agron. 351 and 459 are recommended.

Students majoring in recreation can receive a minor in horticulture with emphasis in park planning and maintenance. These students are required to take Hort. 103, 317, 318, 319, and 430, a total of 14 hours. Recommended courses are Hort. 402, Bot. 205 and 440.

Courses

101. General Horticulture. (3:2:3) F.S. Home Study also. (m) Ashton
Principles and practices underlying the profitable production of tree fruits, small fruits, and vegetables are considered. Subjects covered: orchard sites, soils, fertilizers, varieties, culture practices, pest problems, harvesting, storage, and propagation.

103. Beautifying the Home Grounds. (3:3:0) F.S. (m) Reimschüssel
Principles of design and composition as applied to home ground development and related plant culture and maintenance.

112. Flower Arrangement. (2:1:2) F.S. Reimschüssel
Principles and methods of arranging flowers and other plant materials for decorative use in the home and for exhibition.

207. Floriculture. (3:2:3) F. (Offered 1966 and alternate years) (m) Reimschüssel
Herbaceous plant culture in the greenhouse and out-of-doors.

310. Small-Fruit Production. (2:2:0) S. (Offered 1967 and alternate years) (m) Ashton
Methods of propagating, planting, growing, and handling grapes, strawberries, and other bush type fruits for home and commercial plantings are considered.

312. Practical Orchard Management. (3:0:5) S. (Offered 1966 and alternate years) Ashton
Special emphasis is given to tree selection, spacing, planting, training, pruning and soil and water management.

317. Nursery Practice. (2:1:2) S. (Offered 1966 ad alternate years) Prerequisite: Hort. 101 or 103 or equivalent. Reimschüssel
Principles underlying the profitable management of a nursery: site, soil, culture, and handling of nursery stock, transplanting, propagation, and pest problems.

318. Greenhouse Production. (4:2:4) S. (Offered 1967 and alternate years) Prerequisite: Hort. 207 or equivalent. Reimschüssel
Principles underlying the management of a greenhouse; cultural practices and growing indoor plants emphasized.

319. Turf Management. (2:1:2) F. (Offered 1967 and alternate years) (m) Prerequisite: Hort. 207 or equivalent. Reimschüssel
The management of turf grasses as related to climate, soil and use on the golf course, park and private areas.

340. Vegetable Crops. (3:2:2) S. (Offered 1967 and alternate years) (m) Ashton
Selection, cultural practices, harvesting, storing and marketing of vegetable crops.

350. Pomology. (3:3:0) F. (Offered 1967 and alternate years) (m) Prerequisite: Hort. 101. Ashton
Present commercial varieties and promising new varieties are considered from the point of their origin, characteristics, and principal use. Harvesting, handling, and storage problems are given special attention.

402. Plant Propagation. (3:2:2) S. (Offered 1966 and alternate years) (m) Ashton
Principles and practices of plant propagation of herbaceous and woody plants with special emphasis on fruit and ornamental plants.

416. Ornamental Woody Plants. (3:2:2) S. (Offered 1966 and alternate years) (m) Recommended: Bot. 110. Reimschüssel
Identification, culture, and use of important ornamental woody plants in Utah.

430. **Landscape and Planting Design.** (3:0:6) F. (Offered 1967 and alternate years) (m) Prerequisite: Hort. 103; recommended: drawing. Reimschüssel

Designs and plant combinations for private and public grounds using woody and herbaceous plants.

455. **Advanced Pomology.** (3:3:0) S. (Offered 1966 and alternate years) Prerequisite: Hort 101. Ashton

Problems related to the establishing and maintaining of deciduous orchards.

☐**Agronomy 459. Plant Breeding.** (2:2:0)

471. **Pest Control in Orchards and Field Crops.** (3:3:0) F. Prerequisites: Hort. 101 or Bot. 101; recommended: Bot. 470 and Zool. 334. Ashton

Cultural, chemical, and biological methods, and machines used in control of pests and diseases of orchard and field crops.

475. **Maintenance of Parks and Recreation Areas.** (4:3:2) Prerequisite: Bot. 101 or Hort. 101 or 103. Reimschüssel

General maintenance of lawns, herbaceous and woody plants in a city are considered. (Not recommended for those who minor in horticulture with emphasis in park planning and maintenance.)

☐**Botany 480. Diseases of Cultivated Plants.** (3:2:3)

491, 492. **Seminar.** (1:1:0 ea.) F.S.

For majors in senior year. Current literature in horticulture is reviewed.

495, 496. **Special Problems in Horticulture.** (1-3:Arr.:Arr. ea.) F.S. Prerequisite: consent of department chairman.

Horticulture class in flower arranging

Housing and Home Management

Associate Professor: J. Poulson (chairman, 2246 SFLC).

Assistant Professor: Bastian.

Instructor: Kohler.

Special Instructors: Allen, Lewis, Viehweg, Vincent.

Housing and home management is concerned with the achievement of individual and family goals through the thoughtful use of human resources—knowledge, skills, attitudes; and nonhuman resources—time, money, property and community facilities. Professional interests are served through two areas of emphasis with an option for a major in either home management or housing.

Courses of study in home management are designed to help the student in the management and decision-making process whereby optimum personal and family development may be achieved. Courses of study in housing are designed to help in planning, furnishing, and decorating the home. In addition, students receive a broad liberal education.

The choice of options should be made as early as possible if requirements are to be completed during eight semesters.

Students electing a major in home management prepare for employment in home economics extension service; as demonstrators for utility and appliance companies, and for other positions for which a background in home management is desired. Valuable preparation may also be gained for graduate study leading to college teaching and research.

Students electing a major in housing prepare for an apprenticeship as home planning and decoration consultants or for such a position as a buyer of home furnishings. They, too, gain valuable preparation for graduate study leading to college teaching.

Those interested in further information about employment opportunities and curriculum requirements should consult the department chairman or their appointed adviser.

Recommended minors for home management include economics, sociology, food and nutrition, clothing and textiles, journalism, child development, and others. Recommended minors for housing include art, business management, journalism, and others.

The curricula outlined below provide for the following:

1. The College of Family Living requirements with at least one course in each of the three departments outside the major.
2. The requirements for the major option.
3. The requirements for general education and for the B.S. degree.

Some substitution in course selection may be desirable for male students, who are urged to consult with the department chairman. Summer work experience in line with professional goals is highly desirable and should be planned with the adviser.

Suggested four-year program for majors in housing and home management with emphasis on management.

Freshman Year

	F	S
Undergrad. relig.	2	2
Health 130	2	
P.E.	½	½
Engl. 111, 112	3	3
Bact. 121	3	
Clo. & Text. 110	2	
Art 120	3	
Zool. 105		3
Chem. 101		4
Sociol. 111		3
Total Hours	15½	15½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Hous. Home Mgt. 201	3	
Chem. 151	5	
Hous. Home Mgt. 220		2
Hist. 170	3	
Food & Nutr. 255		5
Physics 100		3
Clo. & Text. 260	3	
Econ. 101		3
Total Hours	16½	15½

Junior Year

	F	S
Undergrad. relig.	2	2
Food & Nutr. 264, 265	5	
Family Finance 351		2
Hous. Home Mgt. 350		2
Food & Nutr. 340		2
Clo. & Text. 165		4
CDFR 361	3	
Hous. Home Mgt. 335		3
Hous. Home Mgt. 380	3	
Electives*	3	2
Total Hours	16	17

Senior Year

	F	S
Undergrad. relig.	2	2
Zool. 276	3	
Hous. Home Mgt. 370	2	
Hous. Home Mgt. 410		3
Hous. Home Mgt. 460	2	
Hous. Home Mgt. 520		2
Hous. Home Mgt. 480	2	
Hous. Home Mgt. 590		2
Hum. 101		3
Electives*	6	4
Total Hours	17	16

*At least 4 hours of these electives must be upper division.

A minor in this option may be defined through individual consultation with this and the major department.

Suggested four-year program for majors in housing and home management with emphasis on housing.

Freshman Year

	F	S
Undergrad. relig.	2	2
Health 130	2	
P.E.	½	½
Engl. 111, 112	3	3
Bact. 121		3
Psych. 111	3	
Art 120, 121	3	3
Elective	2	
Hous. Home Mgt. 201		3
Food & Nutr. 110 or 115		2
Total Hours	15½	16½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Engl. (literature)	3	
Econ. 101	3	
Clo. & Text. 260	3	
Elective	2	
Bot. 101		3
Hist. 170		3
Hous. Home Mgt. 220[1]		2
Hous. Home Mgt. 330		3
Phys. sci.		3
Elective	3	
Total Hours	16½	16½

Junior Year

	F	S
Undergrad. relig.	2	2
Hous. Home Mgt. 380	3	
Phys. sci.	3	
Hous. Home Mgt. 381[2]		3
Commun. 211		3
Hous. Home Mgt. 350	2	
CDFR 360	3	
Lang. or elective	3-4	
Hous. Home Mgt. 335		3
Science or lang.[4]		3-4
Clo. & Text. 430		2
Total Hours	16-17	16-17

Senior Year

	F	S
Undergrad. relig.	2	2
Art 415	3	
Art 306	3	
Hous. Home Mgt. 595	1	
Hous. Home Mgt. 460[3]	2	
or Bus. Mgt. 347	3	
Science or lang.[4]	3-4	
Elective	2	
Art 418		3
Hous. Home Mgt. 410[2]		3
Hous. Home Mgt. 590		2
Electives		6
Total Hours	16-18	16

[1] If student has had no sewing experience, Clo. & Text. 105 will be required.
[2] Hous. Home Mgt. 410 is offered only in the spring.
[3] Art 415 is offered only in the fall.
[4] See new requirements from mathematics, logic and science.

It is recommended that majors in housing and home management, with emphasis on housing, take French to fulfill the foreign language and mathematics requirement since many of the terms in reference materials are in French.

This schedule includes all general education requirements and includes a major in housing and home management and a minor in art. Students must include a minimum of 7 hours of upper division credit in the electives or religion to fulfill requirements.

Courses

170. Home Management for Effective Living. (2:2:0) F.S. Lewis
A study of goals sought, resources available, and managerial behavior in the home. Decision and choice as aspects of adjustment to changed situations. Course is not for College of Family Living majors.

201. Family Housing. (3:3:0) F.S.Su. (m) Viehweg
Consumer orientation to housing, including history and development of styles, forms, and materials, with an analysis of economics, site selection and planning of the contemporary house.

220. Home Furnishings. (2:1:3) F.S.Su. (m)
Selection and care of home furnishings with laboratory practice in refinishing furniture and constructing draperies, lamp shades, slip covers, bedspreads, etc.

221. Weaving. (2:1:3) F.S.
Creative design applied to woven fabrics with experience in weaving methods. Survey of hand-woven fabrics in various world cultures.

330. House Planning. (3:3:0) F.S.Su. (m) Prerequisite: Art 120; may be waived by permission of department chairman. Viehweg
Classroom experience in design, layout and organization of dwelling spaces keyed to contemporary techniques and materials.

335. Household Equipment. (3:2:2) F.S.Su. (m) Kohler, Vincent
Principles underlying selection, construction, operation and care of household equipment. Laboratory experience in testing performance and comparing costs.

350. Home Management. (2:2:0) F.S.Su. (m) Prerequisite: Sociol. 111 or Psych. 111. Bastian, Kohler
Open to men and women. Management in its relation to functions of the family in society. Decision-making in the management of human and nonhuman resources to attain family goals.

351. Family Finance. (2:2:0) F.S.Su. (m) J. Poulson
Open to men and women. Economic problems of direct concern to the family today. Types and adequacy of income and its apportionment in terms of family needs and interests.

370. Residence Experience in Home Management. (2:2:10) F.S.Su. (m) Prerequisites: Hous. Home Mgt. 170 or 350; students majoring in homemaking education or home management, Hous. Home Mgt. 350, 351, 335; Food & Nutr. 340. Bastian
Residence for one-half semester with a family-size group. Experience in decision-making, homemaking and group relations; arranged individual and group conferences. Advance reservations required. Laboratory fee.

380. Interior Decoration I. (3:3:0) F.S.Su. (m) Prerequisites: Hous. Home Mgt. 201, 220, 330; Art 120, 121; may be waived by permission of department chairman. Allen
The application of the principles of design as applied to home decoration and arrangement with emphasis on historical and contemporary interiors.

381. Interior Decoration II. (3:3:0) F.S.Su. Prerequisite: Hous. Home Mgt. 380. Allen
The application of the principles of design as applied to home decoration and arrangement with emphasis on specific areas of the house.

410. Field Work in Housing and Home Management. (3:0:6) F.S. Prerequisites: housing majors, Hous. Home Mgt. 330, 380, 381; management majors, Hous. Home Mgt. 335, 351, 370, 460, 480, and 520.
Faculty supervised participation in professional activity involving recognition of a problem, possible solutions, implementation of the solution chosen and evaluation of attained results.

460. Consumers in the Market. (2:2:0) F. (m) Prerequisites: Econ. 101, Psych. 111, or Sociol. 111. J. Poulson
Consumers' role in the marketing system; consumer decision-making with respect to market goods and services; evaluation of information sources for consumer buyers; consumer protection programs.

480. Training in Demonstration Techniques. (2:1:2) F. Prerequisite: Tchr. Ed. 301. Calder, Kohler
Experience in planning and presenting direct audience demonstration. Techniques for presentation before various-sized groups.

520. Management of Time and Human Resources. (2:2:0) S. (Offered 1967 and alternate years) (m) Prerequisite: Hous. Home Mgt. 350. J. Poulson
Perspectives concerning time and human resources in family life. Concepts and principles related to the use of these resources for furthering attainment of family goals.

570. Supervision of Residence Groups. (1:1:0) F.S. J. Poulson
Objectives for supervision of residence groups; and methods whereby residence groups in a self-directive program under the guidance of a supervisor achieve goals decided upon.

580A,B,C,D,E. Special Topics in Housing and Home Management. (2:2:0 ea.) (m) F.S.Su. Prerequisite: consent of instructor. J. Poulson

A. General Management.
B. Family Housing
C. Family & Consumer Economics
D. Family Finance
E. Laboratory Supervision

590. Seminar. (2:0:3) S. J. Poulson

595. Readings and Projects. (1-2:1-2:0) F.S.Su. J. Poulson
Consultation and directed use of library and laboratory materials.

Humanities

Coordinator: Ralph A. Britsch, 366 McK

Assistant Coordinator: John B. Harris, 364 McK

(An interdisciplinary area only.)

For capable students in the humanities whose educational objectives are not met by a conventional major in one department and a minor in another, the college offers an interdepartmental major and minor, 50 semester hours in art, history, literature (including foreign literature), and music. Students are advised to support these subjects with courses in philosophy, the social sciences, and other related areas. Students will also complete a foreign language program sufficient for the B.A. degree. Of the 50 semester hours required in art, history, literature, and music, at least 25 must be upper division work.

The educational and vocational goals of most students are best served by a conventional major and minor. A selected few students, however, will profit from broader training which includes intensive work in several of the humanities subjects. Such a program has broad cultural value. Through it students may acquaint themselves with the relationships among the various humanities subjects and obtain a valuable liberal education consisting of substantial, well-balanced work in the broad field of the humanities.

Students may enter the humanities program only with permission of the coordinator and should register each semester thereafter under his direction.

1. Required Courses for the Major in Humanities: **Hours**

a. Humanities—at least 6 hours selected from Hum. 101, 201, and 202. 6

b. Art—at least 8 semester hours selected from the following (courses preceded by an asterisk are especially recommended):

Course	Title	Hours
*Art 101.	Introduction to Art	2
*Art 108.	General Art	2
Art 110.	Design in Everyday Life	2
*Art 121.	Basic Drawing	3
Art 122.	Basic Figure Drawing	3
*Art 306.	Art History and Appreciation	3
*Art 307.	Contemporary Art	2
Art 308.	American Art	2
Art 403.	Ancient and Primitive Art	2
Art 404.	Oriental Art	2
Art 405.	Medieval and Renaissance Art	3
Art 501.	Aesthetics	2

Note: Humanities majors are also encouraged to take one or two of the following courses: Art 227, 233, 239, 250, 256, 263.

c. English—at least 14 semester hours selected from the following courses in English, American, and comparative literature (courses preceded by an asterisk are especially recommended):

Course	Hours
*English 251 or 250. Fundamentals of, or Introduction to, Literature	3

English 260. Masterpieces of American Literature	3
English 270. Masterpieces of English Literature	3
English 275, 276. Survey of English Literature	5 ea.
English 277. Survey of American Literature	4
*English 282 or 382 or 582. Shakespeare	2 or 3
English 332, 333. The English Novel	3 ea.
English 335, 336. The American Novel	2 ea.
English 338. The European Novel	3
English 341. 342, 343. English and American Drama	2 ea.
*English 355, 356. World Classics	3 ea.
*English 361, 362. American Literature	4 ea.
*English 371, 372, 373, 374, 375. English Literature	3 or 4
English 380. Twentieth Century Literature	5
English 381. Chaucer	3
English 450. The Criticism and Appreciation of Literature	3
English 500-509. Eminent American Writers	1
English 510-519. Eminent English Writers	1 or 2
English 572. European Literature of the Renaissance	3
English 573. European Literature of the 17th and 18th Centuries.	3
English 574. European Literature of the Romantic Age	3
English 575. European Literature from 1832 to 1914	3

d. History—at least 8 semester hours selected from the following:

History 110, 111. World Civilization	3 ea.
History 304. Greek History and Civilization	3
History 307. Roman History and Civilization	3
History 311. History of the Middle Ages	3
History 312. The Renaissance: Age of Transition	2
History 313. The Reformation: Age of Turmoil	2
History 340. Asia	3
History 381. U.S. Intellectual and Social History to 1865	2
History 382. U.S. Intellectual and Social History Since 1865	3
History 528. Modern European Thought and Culture	2

e. Languages—at least 6 semester hours selected from the following:

French 440. Historical Survey of French Literature	4
French 441, 442. Survey of French Literature and Culture I	3 ea.
French 443, 444. Survey of French Literature and Culture II	3 ea.
French 445. Introduction to French Civilization	2
German 441. German Literature from the Beginning to 1700	3
German 442. German Literature in the 18th Century	3
German 443. German Literature in the 19th Century	3
German 444. German Literature in the 20th Century	3
German 445. Cultural History of Germany	3
Italian 431, 432. Masterpieces of Italian Literature	3 ea.
Latin 431, 432. Masterpieces of Latin Literature	3 ea.
Portuguese 431, 432. Masterpieces of Brazilian and Portuguese Literature	3 ea.
Russian 441, 442. Survey of Russian Literature to 1900	3 ea.
Russian 443, 444. Survey of Russian Literature of the Twentieth Century	3 ea.
Russian 445. Cultural History of Russia	3
Spanish 441. Survey of Spanish Literature	3
Spanish 445. The Culture of the Hispanic World	3
Spanish 451. Survey of Hispanic-American Literature	3

f. Music—at least 8 semester hours selected from the following:

Music 101. Introduction to Music	3
Music 103. Survey of Music Literature	2
Music 484, 485. History of Music	3 ea.

Note: Humanities majors also are encouraged to take one or two of the many participation courses offered by the Music Department.

2. Recommended Courses in General Education for the Major in Humanities:

a. Strongly recommended courses:

Religion 453. World Religions	2
Religion 555, 556. Comparative World Religions	2 ea.
Philosophy 380. Survey of Philosophy	2
Philosophy 470. History of Ancient Philosophy	3
Philosophy 471. History of Modern Philosophy	3
Philosophy 472. Contemporary Ethics	2
Philosophy 475. Contemporary Anglo-American Philosophy	2
Philosophy 477. Scholasticism, Humanism, and Mysticism	2
Philosophy 483. Problems of Knowledge	2

b. Suggested courses:

Anthropology 101. Introductory Anthropology (G-SS)	3
Anthropology 111. Cultures of the World (G-SS)	3
Anthropology 246. The Growth of Culture in the New World	2
Archaeology 200. Introduction to Archaeology (G)	3
Archaeology 380. Old World Archaeology (G-HA)	3
Economics 241. Comparative Economic Systems (G-SS)	3
Economics 274. Economic History of the United States (G-HA)	3
English 350. The Bible as Literature (G-HA)	2
Geography 120. Geography in World Affairs (G-SS)	3
Geology 101. Introduction to Geology (G-PS)	2
Geology 103. Life of the Past (G-PS)	3
Library Science 466. Book Selection	3
Library Science 585. History of the Books	2
Psychology 350. Introduction to Social Psychology (G-SS)	3

3. Recommended Courses Not in General Education for the Major in Humanities:

Anthropology 241. The Growth of Culture in the Old World	3
Economics 415. History of Economic Thought	3
Political Science 301. Ancient Political Philosophy	3
Psychology 450. Personality Development	3
Psychology 540. Abnormal Psychology	3
Sociology 405. Social Systems Analysis	3

Courses

101. An Introduction to the Humanities. (3:3:0) F.S.Su. (G-HA)

A course in applied aesthetics, concerned with the forms and relationships of the major arts—literature, painting, sculpture, architecture, and music.

201. The Arts in Western Culture: Age of Greece to Early Renaissance. (3:3:0) F.S. (G-HA) Britsch

The development of the major arts—literature, painting, sculpture, architecture, and music—in the Greek and Roman periods, the Middle Ages, and the eary Renaissance.

202. The Arts in Western Culture: Late Renaissance to the Modern Age. (3:3:0) F.S. (G-HA) Britsch

The development of the major arts—literature, painting, sculpture, architecture, and music—from the late Renaissance to the present.

401H. Man in the Contemporary World. (3:4:0) F.S.

Conceptions of man and his world as currently expressed in various humanistic disciplines. For juniors and seniors in the Honors Program only.

402H. Man and Contemporary Science. (3:4:0) F.S.

The impact of science on contemporary thought and life, explored through readings and discussion on selected topics from the several sciences. For juniors and seniors in the Honors Program only.

Industrial Education

Professors: Jeppsen, McArthur.

Associate Professors: Hinckley (chairman, 240H SIE), Glenn.

Assistant Professors: Gamett, McKinnon.

Instructor: Jenkins.

The Industrial Education Department provides four major programs of instruction:

1. **Industrial Arts Teacher Education,** offering instruction leading to the baccalaureate degree to prepare industrial arts teachers for junior and senior high schools.
2. **Technical Teacher Education,** offering instruction leading to the baccalaureate degree to prepare teachers for vocational and technical schools.
3. **Graduate Teacher Education,** leading to the master's degree in industrial education to prepare master teachers, supervisors, and administrators of industrial and technical education.

   Note: In cooperation with the College of Education, the Doctor of Education degree is available with minor emphasis in industrial education.
4. **The General Service Courses,** open to all students. These courses offer basic training in fundamental operations and processes and are designed to give exploration, guidance, and consumer knowledge in crafts and in modern industrial fields.

REQUIREMENTS FOR THE SECONDARY TEACHING CREDENTIAL

Students planning to become teachers are encouraged to seek early advisement from the department concerning the teacher education program. An attempt to complete one phase of the program ahead of schedule would complicate the smooth functioning of the program. Students beginning their professional preparation in the senior year may find it necessary to devote part of a fifth year to complete the program.

General Education Requirements

See "General Education Requirements" in the Student Academic Services Section of this catalog. These requirements should be distributed throughout the four-year program.

Courses Fulfilling Minors

Courses fulfilling minors are designated in this department as follows: crafts minor—(cm), drafting minor—(dm), electronics minor—(em), metalwork minor—(mm), woodwork minor—(wm), farm mechanics minor—(fm), graphics minor—(gm), industrial arts minor (iam, for elementary teachers only).

Educational Requirements for Certification

See the requirements listed by the College of Education. Refer to Teacher-Education Section for teaching majors and minors.

Note that Indus. Ed. 377 and 479 must be taken in the Industrial Education Department, not in the Department of Teacher Education.

INDUSTRIAL AND TECHNICAL TEACHER EDUCATION

Three baccalaureate degree programs are offered in industrial and technical teacher education. These include: general shop, unit shop, and technical teacher education.

Industrial Education—General Shop Program

The General Shop Program provides a broad approach with limited training in crafts, drafting, electricity, graphics, metals, and woods; with the addition of several professional courses. This program is designed to prepare industrial arts teachers for elementary school and junior high school general shop programs.

Major: 38 hrs.

Indus. Ed. 100 (3), 105 (2), 130 (3), 139 (2), 260 (3), 326 (1), 360 (3), 375 (2), 405 (2), 470 (2), 250 (2) or Indus. Tech. 189 (3), 540 (2) or Grad Ed. 550 (2); Indus. Tech. 210 (3), 325 (2); Engr. Tech. 101 (3), 102 (3); Math. 121 (3); Art 110 (2); Drafting 111 (3), 211 (2).

Minor: (See teacher education minors.) 16-20 hrs.

General Education: 58 hrs.

Departmental recommendations: Math. 121, Physics 105 or Chem. 100 and 104; Psych. 111, 321; Art 110; Engr. Tech. 101; dev. assy. (2 hrs.), or equivalents.

Teacher Education: (See Teacher Education Section of this catalog.) 22 hrs.

Industrial Education—Unit Shop Program

The Unit Shop Program provides training in two basic areas with one dominant area, and one related area. This approach will give considerable depth in the dominant area, and a more limited coverage in the related areas. This program will prepare industrial arts teachers for senior high school unit shop programs.

Required Core: 9 hrs.

Drafting 111, or Engr. Tech. 228*
Indus. Ed. 470
Indus. Ed. 405, or Engr. Tech. 234, 237*
Indus. Ed. 540

*Substituted when electronics is dominant area.

Dominant Emphasis: 17-18 hrs.

Select one from: drafting, electronics, metal, wood.
(See teacher education majors and minors for specific class requirements.)

Related Emphasis: 10 hrs.

Select one in an area other than dominant choice: crafts, drafting, electronics, graphics, metal, wood.

Minor: (See teacher education minors.) 16-20 hrs.

General Education: 58 hrs.

Departmental Recommendations: Math. 121; Physics 105 or Chem. 100 and 104; Psych. 111, 321; Art 110; Engr. Tech. 101; dev. assy. (2 hrs.); or equivalents.

Teacher Education: (See Teacher Education Section of this catalog.) 22 hrs.

TECHNICAL TEACHER EDUCATION

Composite Major (conforming to A and B below)

This curriculum is designed to prepare advanced technicians as teachers for unit-shop type programs in technical education. Entrance to this program requires the satisfactory completion of a two-year technical program approved by the department, together with a student G.P.A. of 2.25 or above. Like the Industrial Arts Teacher Education Program, this program may be continued for the master's degree in the fifth year. Graduation from this program requires a minimum of one year of technical occupational experience and satisfactory completion of the following:

	Minimum Semester Credit Hours
A. A prescribed two-year technical program approved by the department	64
B. Selected and approved advanced technology courses in the specialty area	12
C. Additional general education and group requirements specified by the University for the baccalaureate degree	26
D. Professional education courses	22
E. Professional industrial education courses	6
Total Hours	130

MASTER OF SCIENCE IN INDUSTRIAL EDUCATION

Majors—industrial arts education or technical education.

Suggested minors—education and psychology, guidance and counseling, personnel and industrial relations, supervision and administration, business administration, industrial management, or junior college curriculum.

Major requirements: 24 to 27 semester hours selected from the following: Indus. Ed. 505, 540, 595A,B,C, 610, 620, 625, 690, 691; Grad. Ed. 550, 552, 560, or 658.

Minor requirements: 9 to 10 semester hours selected in consultation with the minor adviser. See above list of suggested minors.

Research and Thesis: Grad. Ed. 660; Indus. Ed. 694A,B,C, 699.

Entrance requirements: In addition to the requirements for the master's degree listed in the Graduate School Section of this catalog, the Industrial Education Department requires

(a) Satisfactory completion of 30 semester hours in industrial and technical education undergraduate courses prior to or concurrent with the graduate work or a minimum of 6 years of bonafide trade experience.

(b) Satisfactory completion of a qualifying examination given by the Industrial Education Department.

Courses

100. Woodwork Fundamentals. (3:2:4) F.S. (iam, wm, fm) Hinckley, McKinnon
Care and use of hand and machine woodworking tools applied to fundamental principles of sawing, joining, fitting, and fastening.

105. Wood Finishing. (2:1:3) F.S. (iam, wm) Gamett
Preparation of surfaces for the application of finishes, stains, paints, varnishes, lacquers, polishes, etc. Use of brush and air gun.

119. **Upholstery I.** (2:1:3) F.S. (wm) Gamett
Typical forms of upholstery, including foundations with and without springs.

130. **Introduction to Manufacturing Processes.** (3:2:4) F.S.Su. (mm, fm)
An introduction to the processes of shaping, forming, and stamping of metals. For industrial education majors.

139. **Sheet Metal and Ornamental Iron.** (2:1:3) F.S. (iam, mm, fm)
Gamett, McKinnon
Projects in sheet metal, ornamental iron work, and pattern layout.

160. **Recreational Handicrafts.** (2:1:3) F.S. (iam, cm) Evening registration only.
McKinnon
Students may work in a selected area according to their interests—woodwork, metalwork, plastics, lapidary work, etc. Course is open to all students interested in leisure-time activities.

200. **Woodwork Projects.** (3:1:5) F.S.Su. (wm) Prerequisite: Indus. Ed. 100.
Hinckley, McKinnon
Use of hand and machine tools in the construction of furniture. Drawings, specifications, and cost estimates of all projects are submitted by the student.

250. **Graphic Arts.** (2:1:3) F.S.Su. (cm) Jenkins
Fundamentals of printing industry such as typesetting, bookbinding, etc.

260. **Crafts.** (3:2:4) F.S.Su. (cm) Gamett, McKinnon
Fundamental hand and machine operation used in working plastics, wood, and leather.

319. **Upholstery II.** (2:1:3) F.S. Prerequisite: Indus. Ed. 119. Gamett
Advanced work in upholstery.

326. **Welding Processes Laboratory.** (1:0:3) F.S. Prerequisite: concurrent registration in Indus. Tech. 325.
Skill development in common welding processes for industrial arts teachers.

360. **Metal Crafts and Lapidary.** (3:2:4) F.S.Su. (cm) Gamett, McKinnon
Projects in metals, lapidary, and enameling.

375. **Organization and Development of Instructional Materials.** (2:2:0) F.S. Prerequisite: completion of or concurrent registration in Tchr. Ed. 301.
Hinckley
Organization and development of instructional materials to be used in industrial education classes, based on the principles and objectives of industrial education.

377. **Secondary Teaching Procedures.** (3:3:3) F.S. Prerequisite: Indus. Ed. 375.
Jeppsen
Methods, techniques, and special classroom procedures applied to individual and group instruction in industrial and technical education.

405. **Shop Maintenance.** (2:1:3) F.S. Gamett
Care and maintenance of tools and machines.

470. **Shop Organization and Management.** (2:2:2) F.S. Prerequisite: completion of or concurrent registration in Indus. Ed. 377. McArthur
Organization and management of industrial education shops, including unit, general, and multiple activity types.

479. Objectives and Practices in Teaching Industrial Arts. (8:1:40) F.S. Prerequisites: Ind. Ed. 377; Tchr. Ed. 301, 310. Gamett

Student teaching. Material is prepared, and principles and objectives of the industrial arts program are formulated and discussed.

490. Special Problems in Metals. (1-3:Arr.:Arr.) F.S.Su.

Individual study in special areas of interest related to machine shop practices or welding.

491. Special Problems in Wood. (1-3:Arr.:Arr.) F.S.Su.

Individual study in special areas of interest related to furniture or building construction.

492. Special Problems in Electricity. (1-3:Arr.:Arr.) F.S.Su.

Individual study in special areas of interest related to industrial or commercial applications of electricity and electronics.

493A,B,C,D. Special Problems in Crafts. (1-3:Arr.:Arr. ea.) F.S.Su.

A—wood, B—lapidary, C—leather, D—metals. Limited to a maximum of three hours of credit for each letter.

494. Special Problems in Graphic Arts. (1-3:Arr.:Arr.) F.S.Su.

Individual study in special areas of interest related to industrial applications of graphic art processes.

505. Industrial Arts for Elementary Teachers. (2:2:0) F.Su.

Nature and needs of teachers instructing industrial arts in the elementary schools with emphasis on content and procedures.

540. Industrial Occupational Information and Guidance. (2:2:0) S.Su. Hinckley, McArthur

595A,B,C. Problems in Industrial and Technical Education. (1-3:0-3:3-9 ea.) F.S. Su. Hinckley, McArthur

Limited to a maximum of six hours credit.

610. History and Trends in Industrial and Technical Education. (2:2:0) F.Su. McArthur

Historical developments of industrial and technical education programs from their early beginnings to the present time.

615. Principles and Objectives of Industrial and Technical Education. (2:2:0) F. Su. Densley, McArthur

General philosophy, principles, and objectives of industrial arts, vocational education, and technical education programs.

620. Analysis in Industrial and Technical Education. (2:2:0) F.Su. Prerequisite: Indus. Ed. 615 or consent of instructor. Hinckley

625. Course Construction in Industrial and Technical Education. (2:2:0) S.Su. Prerequisite: Indus. Ed. 620 or consent of instructor. Hinckley, McArthur

Preparation and use of a course of study in industrial and technical fields based on an analysis of the occupation.

690, 691. Seminar. (1:1:0 ea.) Su.

Review of latest developments and research findings in the field of industrial and technical education.

694A,B,C. Reading and Conference. (1-3:1-3:0 ea.) F.S.Su.

Limited to a maximum of six credit hours.

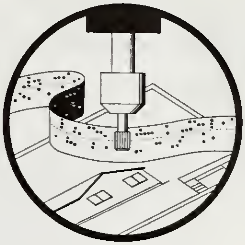
699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

Industrial Technology

Professor: McArthur (chairman, 230A SIE).

Instructors: Allen, Tolman.

Special Instructors: Long, Naegle, Schow.



The Industrial Technology Department provides baccalaureate degree programs in three areas including building construction technology, design and drafting technology, and manufacturing technology; and associate degree programs in five areas including drafting technician, graphic arts technician, light-building construction technician, tool design technician, and welding technician. The departmental offering is designed to meet the needs of two distinct groups of students:

1. Introductory courses for those students desiring a greater understanding of the industrial and technical activity in the world of today.
2. Technical courses for those students desiring to prepare for entrance into industrial and technical occupations in the world of work.

These programs are designed to develop successful and productive citizens with a constructive philosophy of life. To receive maximum benefit in the minimum time, students should contact the department chairman and be assigned an adviser who will help them work out a program of studies.

Following is a description of the baccalaureate degree **technology** programs. The associate degree **technician** programs are listed in the Technical Institute Section of this catalog.

Building Construction Technology

(Four-year baccalaureate degree)

The Building Construction Technology Program includes instruction in basic woodwork, drafting, cabinet work, house framing, carpentry finishing, plumbing, house wiring, and masonry; building materials and methods; estimating, accounting, and economics.

New construction materials and methods have radically changed building construction within the last few years. Men who know how to use effectively the new techniques, as well as the traditional methods, are much needed by the construction industry. This baccalaureate degree technology program is planned to prepare men to fill that need. Typical positions of graduates of this program are field men for architects, building material dealers, contractors, and contractor field supervisors.

First Year

	F	S
Indus. Ed. 100, 105	3	2
Indus. Ed. 139, Indus. Tech. 325	2	2
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170, Health 130	3	2
Gen. ed.		2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	16½

Second Year

	F	S
Indus. Tech. 210, 211	3	2
Minor, Indus. Tech. 218	2	2
Indus. Tech. 341		2
Drafting 111, 156	3	2
Math. 223	3	
Physics 105, 106	3	3
Gen. ed.		3
Undergrad. relig.	2	2
P.E.	½	½
Total Hours	16½	16½

Third Year

	F	S
Engr. Tech. 205, 206	3	3
C.E. 211, Drafting 210	3	3
Minor	2	4
Acctg. 201	5	
Gen. ed.	2	5
Undergrad. relig.	2	2
Total Hours	17	17

Fourth Year

	F	S
Indus. Tech. 410, 411	3	3
Indus. Tech. 301, 317	3	2
Bus. Mgt. 340, Drafting 355	3	3
Minor	3	3
Gen. ed.	2	3
Undergrad. relig.	2	2
Total Hours	16	16

Design and Drafting Technology

(Four-year baccalaureate degree)

This program prepares design draftsmen for employment in the aerospace and other mechanical oriented industries. Graduates from this program, while not engineers, are advanced technicians and technologists well prepared to work with and assist the engineer by performing many important responsibilities which will increase his efficiency and productivity. Upon satisfactory completion of this program, graduates receive the baccalaureate degree in design and drafting technology with a minor in tool and manufacturing technology.

First Year

	F	S
Drafting 111, 211	3	2
Math. 121, 122	3	3
Engl. 111, 112	3	3
Engr. Tech. 100, Gen. ed.	1	3
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	15	17

Second Year

	F	S
Drafting 210	3	
Indus. Tech. 131, 242	3	3
Math. 223, Chem. 105	3	4
Physics 105, 106	3	3
Econ. 101		3
Undergrad. relig.	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	15	16

Third Year

	F	S
Drafting 311	3	
Indus. Tech. 231, 338	3	3
Engr. Tech. 252, 216	3	4
Indus. Tech. 333 or C.E. 211		3
Engl. 316	2	
Gen. ed.	3	3
Undergrad. relig.	2	2
Dev. Assy. 301, 302	½	½
Total Hours	16½	15½

Fourth Year

	F	S
Drafting 411, 410	2	3
Indus. Tech. 330, 336	3	3
Indus. Tech. 332, 431	2	3
Indus. Tech. 335	4	
Indus. Tech. 434, 435	3	2
Engr. Tech. 228 or Indus. Tech. 430	3	
Gen. ed.		5
Dev. Assy. 401, 402	½	½
Total Hours	17½	16½

MANUFACTURING TECHNOLOGY

(Four-year baccalaureate degree)

The four-year program in Tool and Manufacturing Technology leading to a baccalaureate degree includes machine tool operation, machine tool performance, manufacturing processes and materials, mechanisms, manufacturing analysis, production planning, metrology, physical metallurgy, tool design, automation, and computer programming.

Graduates of this program work as advanced tool design technicians, inspectors, process planners, tool engineering technicians, automatic machine tool programmers, tool and gauge designers, and production estimators.

First Year

	F	S
Indus. Tech. 131, Health 130	3	2
Drafting 111, 211	3	2
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170		3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. Assy. 101, 102	½	½
Total Hours	15	16

Second Year

	F	S
Indus. Tech. 231, 242	3	3
Drafting 210, Indus. Tech. 335	3	4
Engr. Tech. 216, 252	4	3
Math. 223, Engl. 316	3	2
Physics 105, 106	3	3
P.E., undergrad. relig.	½	2
Dev. Assy. 201, 202	½	½
Total Hours	17	17½

Third Year

	F	S
Indus. Tech. 325, 333	2	3
Indus. Tech. 336, 332	3	2
Indus. Tech. 338, 330	3	3
Technical elective*	3	
Indus. Tech. 430		3
Econ. 111, Stat. 221	3	3
Undergrad. relig.	2	2
Dev. Assy. 301, 302	½	½
Total Hours	16½	16½

Fourth Year

	F	S
Indus. Tech. 431	3	
Indus. Tech. 433	3	
Technical elective*		7
Gen. ed.	6	8
Undergrad. relig.	2	
P.E.	½	
Dev. Assy. 401, 402	½	½
Total Hours	15	15½

*Technical electives—Select 10 hours from the following:

Indus. Tech. 432 (2), 434 (3), 590 (v); Bus. Mgt. 420 (3), 340 (3); Chem. 105 (3), 106 (3); Comput. Sci. 201 (2), 331 (3); Indus. Ed. 250 (2).

Courses

120. Acetylene Welding I. (2:1:3) F.S. (mm, fm) Long

Principles and practices in the fundamentals of oxyacetylene welding and cutting of steel. A general course open to all college students.

121. Acetylene Welding Laboratory. (3:0:9) F. Prerequisite: concurrent registration in Indus. Tech. 120. Long

Laboratory experience in oxyacetylene fusion welding, heating, brazing, and cutting of light gauge and plate steel.

125. Electric Welding I. (2:1:3) F.S. (mm, fm) Long

Principles and practices with electric welding equipment. Methods used in arc welding of steel in flat position. A general course open to all college students.

126. Electric Welding Laboratory. (3:0:9) S. Prerequisite: concurrent registration in Indus. Tech. 125. Long

Laboratory experience in arc welding of steel plate with emphasis on commonly used joints.

131. Machine Tool Operation. (3:2:3) F.S. (mm) Naegle, Schow

Theory and operation of engine lathe, milling machine, tracer attachments, and surface grinder. Includes machine set-up, work layout, clamping, gear cutting, indexing, speed and feed selection.

188. Farm Machinery. (3:1:5) F. (fm)

Care and maintenance of general farm equipment.

189. **Gas and Diesel Engines.** (3:1:5) F. S. (fm) Long
Care and maintenance of gas and diesel engines. Includes overhaul and rebuilding procedures.

210. **Carpentry Framing.** (3:1:5) F.S. (wm, fm) Prerequisite: Indus. Ed. 100.
Densley, Hinckley, McKinnon
Practical problems in forming, framing, sheathing, and insulation.

211. **Carpentry Finishing.** (2:1:3) S. (wm) Prerequisite: Indus. Tech. 210.
Densley, Hinckley, McKinnon
Practical problems in interior and exterior trim.

218. **Plumbing.** (2:1:3) S. (fm) (Offered alternate odd years) McKinnon
Plumbing and plumbing layout.

221. **Acetylene Welding II.** (5:2:8) F. Prerequisite: Indus. Ed. 121. Long
Advanced practices in all phases of oxyacetylene welding, brazing, metalizing, and cutting.

226. **Electric Welding II.** (5:2:8) S. Prerequisite: Indus. Ed. 126. Long
Advanced practices in arc-welding processes including work in submerged arc, resistance, stud welding, and arc cutting.

227. **Inert-Gas Welding.** (3:1:5) S. Prerequisites: Indus. Tech. 121, 126. Long
Principles and practices of gas-shielded welding of ferrous and nonferrous metals.

231. **Manufacturing Processes and Materials.** (3:2:3) F.S. Allen, Naegle
Economic and technical studies of manufacturing processes and materials including testing, heat-treatment, machining, forming, stamping, extruding, casting, high energy beam machining, powder metallurgy, welding and cutting, bonding and finishing.

242. **Electric and Electronic Controls.** (3:2:2) F.S. Prerequisite: Math 121.
Study of the operation and application of electrical and electronic controls on industrial machinery.

301. **Cabinet Making and Millwork.** (3:1:5) F. (wm) Prerequisite: Indus. Ed. 200. Hinckley, McKinnon
Design and construction of cabinets, and study of milling operations.

317. **Concrete and Masonry.** (2:1:3) S. (fm) (Offered alternate even years)
McKinnon
Fundamental study and experience in the preparation and placement of concrete. Practice in laying cinder block, concrete block, and general introduction to masonry.

325. **Welding Processes.** (2:1:3) F.S. (mm) Long
A general course dealing with theory, application, and economics of various welding processes. Includes study of resistance, arc, thermite, gas, forge, and high energy beam welding processes, as well as brazing, cutting, and metallizing processes.

330. **Mechanisms.** (3:3:0) F.S. Prerequisites: Engr. Tech. 216, Math. 223. Naegle
Graphical solution of problems involving displacement, velocity, and acceleration in tool and machine mechanisms, including study of linkages, gear trains, cams, and power transmission devices.

332. **Production Planning.** (2:2:0) F.S. Prerequisite: Indus. Tech. 231 or consent of instructor. Schow

Planning and coordinating manufacturing facilities for economical production. Includes study of materials, EDP methods, motion and time study, scheduling, plant layout, and quality control.

333. Metrology. (3:2:2) S. Prerequisites: Indus. Tech. 231, Stat. 221, or concurrent registration. Naegle, Schow

Theory, selection, and application of precision, optical, electronic, pneumatic and mechanical instruments for measurement of length, angle flatness, finish, shape, and soundness of manufactured parts.

335. Introduction to Physical Metallurgy. (4:3:3) F.S. Prerequisite: Indus. Tech. 231 or consent of instructor. Allen, Schow

A study dealing with mechanical testing, metal structure, metallurgical examination, plastic deformation, constitution diagrams, heat treatments, ferrous and nonferrous alloys, wear, corrosion, powder, welding, and foundry metallurgy.

336. Basic Fluid Power. (3:2:4) F.S. Prerequisite: Math. 121. Long

A study of hydraulic and pneumatic systems as a means of transmitting and controlling power; component identification and operation, fluid power graphical symbols, circuits, and applications.

337. Pattern Making and Foundry Practice. (2:1:3) S. Prerequisite: Indus. Ed. 100. Hinckley

Principles of pattern making involving use of wood, plastic and plaster patterns, and metal castings.

338. Machine-Tool Performance. (3:2:2) F.S. Prerequisites: Indus. Tech. 231, 335, Physics 105. Allen, Schow

Study of cutting tool geometry, tool materials, cutting forces, feed, speed, surface finish, horsepower requirements, efficiency, coolants, vibration and machine tool evaluation with computer applications.

341. House Wiring. (2:2:2) F.S. (fm) McArthur

Electrical circuits in homes and farm buildings.

351. Typographical Layout and Design. (3:2:4) F.S. Prerequisite: Indus. Ed. 250. **Jenkins**

Principles of design applied to products of the printer. Arrangement and paste-up of art materials for reproduction. A study of ink, paper, and theory of color.

410. Construction Materials and Methods. (3:3:0) F. (offered alternate even years) McKinnon

Theoretical aspects of buildings, locations, soil conditions, footings, materials, and equipment.

411. Estimating. (3:3:0) S. (offered alternate odd years)

Interpreting plans and specifications. Methods of estimating and figuring costs of materials and labor.

430. Automation in Manufacturing. (3:2:3) S. Prerequisites: Engr. Tech. 252, Indus. Tech. 242, 330, 336. Allen, Naegle

Study, evaluation, and programming of numerically controlled machine tools, and of equipment for automatic machining, inspecting, and material handling by means of electronic and fluid power devices.

431. Tool Design. (3:2:3) F. Prerequisites: Indus. Tech. 333, 338. Naegle, Schow

Design of jigs, fixtures, gauges, cutting tools, and stamping, forming, and molding dies. Includes study of press design, cutting and forming pressures, feeding mechanisms and safety features.

432. Manufacturing Research Laboratory. (2:0:6) S. Prerequisites: Indus. Tech. 430, 431. Allen, Naegle

Students select and conduct research in one or more of the following areas: machinability, automation, tool design and try-out, quality control, numerical control, or advanced manufacturing processes.

433. **Manufacturing Analysis.** (3:3:0) F. Prerequisites: Indus. Tech. 231, 333, 335, 338, 430. Allen, Naegle
Product design analysis, manufacturing process analysis and selection, machine tool cost and function analysis, manufacturing economics, value analysis, and post-production analysis.

434. **Elements of Machines I.** (3:2:3) S. Prerequisites: Engr. Tech. 216, Indus. Tech. 330, 336. Naegle, Schow
Theory and application of machine elements including study of working stresses, power transmission, bearings and lubrication, fasteners, vibration, heat and human engineering, and laboratory work. Includes basic experimental stress analysis.

435. **Elements of Machines II.** (2:1:3) F. Prerequisite: Indus. Tech. 434. Naegle, Schow
An integrated course for advanced students in which electronic, pneumatic, hydraulic, and mechanical components are applied to the design of products, tools, machines, and equipment.

452. **Graphic Arts II, Letterpress.** (5:3:6) F. Prerequisite: Indus. Ed. 250. Jenkins
Advanced instruction and practice in principles of composition, presswork, block printing, rubber plates, and make-ready. Instruction in Ludlow composition, paper cutting, die-cutting, scoring, and perforating.

453. **Graphic Arts III, Photolithography.** (5:3:6) S. Prerequisite: Indus. Ed. 250. Jenkins
Advanced procedures in offset camera work, stripping procedures and surface platemaking for offset lithography. Emphasis on presswork, cold-type makeup and silk screen printing.

590. **Special Problems in Manufacturing Technology.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

593. **Special Problems in Welding Technology.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

DRAFTING

Courses

109. **Industrial Arts Design.** (1:1:1) F.S. Gamett
Fundamental elements and processes of design in industrial arts.

110. **Blueprint Reading.** (2:2:0) F.S. Home Study also.
A basic course in the fundamentals of modern blueprint reading. For those not majoring in Industrial or Technical Education.

111. **Mechanical Drawing Fundamentals.** (3:3:0) F.S. Home Study also. Tolman
Fundamentals of mechanical drawing, including sketching, lettering, orthographic projection, auxiliary views, sectional views, isometric drawing, and basic dimensioning.

156. **Small-House Planning.** (2:1:3) F.S. Home Study also. Prerequisite: Drafting 111, or consent of instructor. Tolman
Small-house plans, elevations, sections, and details.

210. **Descriptive Geometry.** (3:2:4) F.S. Prerequisite: Drafting 111. Naegle
Principles relating to point, line, plane, curved lines and surfaces, vectors, intersections and developments with application to practical problems.

211. **Advanced Mechanical Drawing.** (2:2:0) F.S. Prerequisite: Drafting 111 or consent of instructor. Tolman
Instruction in techniques of working drawings, precision dimensioning, reproduction methods, simplified drafting, S.A.E., aerospace standards, and modern drafting room procedures and practices.

256. Rendering and Perspectives. (3:1:5) F.S. Prerequisite: Drafting 156. Tolman

Methods and procedures involved in rendering and drawing one-, two-, and three-point perspectives.

311. Aeronautical Drafting. (3:2:4) F.S. Prerequisites: Drafting 210, 211. Tolman

Familiarization of terms and principles of flight, production drawings, layouts, sheet metal, lofting, microfilm requirements, manuals, mill specifications, checking and change procedure.

355. Residential Drafting. (3:1:5) F.S. Prerequisite: Drafting 156. Snell, Tolman

Planning and designing residential structures.

356. Commercial Structure Drafting. (3:1:5) F.S. Prerequisite: Drafting 355. Tolman

Students design and plan a small commercial building complete with working drawings.

410. Technical Illustration. (3:2:4) F.S. Tolman

Problems in axonometric illustration. Use of templates. overlays, Anderson Board, bisuals, perspectives and airbrush techniques.

411. Photodrawing. (2:1:3) F. Prerequisite: Drafting 311. Jenkins

Applied course in the use of basic equipment, procedures, processes and techniques which are common to industrial photodrawing practices.

449. Special Problems in Drafting. (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

Students at work in a modern shop under experienced instructors

International Relations Program

Professor:	Reeder.
Assistant Professors:	W. Doxey, Melville.
Assistant Professors:	R. Hillam (coordinator, 36 JS), L. Farnsworth, Diane Monson.

The International Relations Program is an interdisciplinary program within the College of Social Sciences which provides a concurrent major or a minor leading to the B.A. degree.

The program is designed to prepare the student for a career or for advanced study in international relations. In the program, students will be required to complete a major in one of the regular disciplines, to acquire a basic knowledge in a modern language, and to develop an integrated understanding of international relations. To enable the student to compete more effectively for a career in the foreign service, both public and private, the student will be introduced to the study of intercultural relations and international politics in fields such as anthropology, psychology, sociology, geography, history, economics, and political science. This broad interdisciplinary training is also designed to prepare the student for advanced study in international relations.

Requirements for a Concurrent Major:

A total of 28 hours (in addition to a regular major in one of the departments and 12 hours of modern language) divided as follows:

	Hours
1. Theory of International Politics (Pol. Sci. 370)	3
2. Core courses chosen from three fields outside the regular major (starred list below) including two of the following: Development of American Foreign Policy, International Trade and Finance, International Organization, and International Law	15
3. Elective Courses (including 4 additional hours of language for non-language major and minor) chosen from any field listed below	10

Requirements for a Minor:

A total of 14 hours (in addition to a regular major in one of the departments and 12 hours of modern language) divided as follows:

	Hours
1. Theory of International Politics (Pol. Sci. 370)	3
2. Core courses (starred in list below and to include one of the following: Development of American Foreign Policy, International Trade and Finance, International Organization, International Law) chosen from two fields in addition to the regular major	6
3. Elective courses chosen from any of the fields listed below	5

Programs for the major or the minor must be approved by the student's international relations adviser.

FIELDS

		Hours
Aerospace Studies		
120	Defense of the United States	2
210	World Military Systems	2
311	Astronautics and Space Operations	3
Anthropology		
101	Introductory Anthropology	3
111	Cultures of the World	3
241	The Growth of Culture in the Old World	3
432	Political Institutions of Primitive Peoples	3
*471	The American Culture	3
Economics		
101	Survey of Economics	3
111	Introduction to Economic Principles and Problems	3
112	Introduction to Economic Principles and Problems	3
*241	Comparative Economic Systems	3
*358	International Trade and Finance	3
430	Economic Development	3
*441	Advanced Comparative Economic Systems	3
471	European Economic History	3
475	Introduction to Government Finance	3
476	Government and Business	3
535	Economic Problems of Asia	3
English		
355	World Classics	3
356	World Classics	3
380	Twentieth Century Literature	5
426	Semantics	2
Geography		
101	Introduction to Geography	3
120	Geography and World Affairs	3
231	Economic Geography	3
332	World Mineral Resources	2
401	Geography of Climates	2
405	Geography of Landforms	2
*441	Political Geography	3
450	North America	3
580	Geography of Underdeveloped Areas	2
	Advanced regional courses in 400 and 500 series	6
History		
*323	Europe in the 20th Century	2
331	Russia and Eastern Europe Since 1900	3
340	Asian Civilization	3
352	History of Latin America II	3
*379	Contemporary American History Since 1920	3
625	European Diplomatic History	2
628	European Thought and Culture to 1800	2
Philosophy		
380	Survey of Philosophy	2
Religious Education—Undergraduate		
453	World Religions	2
Religious Education—Graduate		
555	Comparative World Religions	2
556	Comparative World Religions	2

Communications

101	Introduction to Mass Communication	2
307	Communication Law	2
*580	World Communication Channels	2

Language

Advanced courses in a modern language beyond the 12-hour bachelor requirement	10

Political Science

150	Foreign Governments	3
170	International Relations	3
321	Political Behavior	3
322	Contemporary Problems	2
350	Government and Politics of Soviet Union and Eastern Europe	3
*351	Communist Governments and Politics	3
352	Government and Politics of East Asia	3
355	Government and Politics of the United Kingdom and the Commonwealth	3
356	Governments and Politics of South America	3
357	Government and History of Canada	3
358	Governments and Politics of Southeast Asia	3
*371	Development of American Foreign Policy	3
*375	International Organization	3
456	Government and Politics of Mexico and the Caribbean	3
457	The Military in Government and Politics	3
538	International Project Administration	3
572	Foreign Policy of Soviet Union and Eastern Europe	3
*575	International Law	5
580	International Politics of Asia	3

Psychology

111	General Psychology	3
*350	Introduction to Social Psychology	3
357	Group Relations and Leadership	3

Sociology

111	Introductory Sociology	3
*350	Introduction to Social Psychology (Sociol.-Psych.)	3
357	Group Relations and Leadership	3
410	Racial and Minority Group Relations	2
426	The Sociology of Urban Life	3
449	Community Organization, Action and Planning	2
470	Social Change	3
*501	Political Sociology	3
552	Personality: Culture and Society	3
555	Group Dynamics	3
570	Class, Status, and Power	3

Languages

Professors:	Rogers (chairman, 326 McK), R. Clark, Cummings, de Jong, Hansen, Lee, Valentine, Watkins, Wilkins.
Associate Professors:	Anderson, T. Brown, Compton, Folsom, Gibson, Green.
Assistant Professors:	Ball, Blair, H. Clark, Gubler, Kelling, Moon, Rosen, Shreeve, Slade, Smith, Smithson, Speidel.
Instructors:	Baird, J. Brown, Heudier, Jensen, Luckau, Lysenko, Taylor.
Special Instructors:	Bartlett, Chidester, G. Hansen, Jacobs, Kartchner, T. Lee, Mackay, Tarr, Walser.

The study of a foreign language is a unique educational experience. It is a means by which the student can participate in the inner life of another people and share their culture. Through the study of a foreign language, the student also comes to learn his own language better. The poet and philosopher Goethe said, "He who knows no other language, knows not his own."

The objectives of the courses in the Department of Languages are as follows:

1. **General:** To teach the student to understand and to speak a language with facility and to develop skill in reading and writing. To provide a survey of foreign literatures and to acquaint the student with foreign cultures.
2. **Specific:** To prepare students for the teaching profession, government work at home and abroad, international trade, L.D.S. missions in foreign countries, and research leading to advanced degrees.

Language Requirement for Graduation and Information for High School Graduates. Successful completion of a 201 language class or a more advanced class will fulfill the language requirement for graduation. High school graduates who have had two years of foreign language study may enroll for a 201 course in the language studied, or they may choose to begin with a 102 course. Those who have had one year of foreign language study in high school may enroll for a 102 course. A 201 course and a 102 course (or the equivalent of 102 in high school training) are required to fulfill the six- to eight-hour language requirement for graduation. Students who enroll for a 101 course may count these hours toward graduation, but a 101 course does not help fulfill the general education requirement. For further information or consultation, see the Language Department placement advisers at registration time.

Library and Laboratory Facilities. The department has good library facilities and a language laboratory permitting emphasis on the most modern language teaching techniques. The tape library contains some of the best dramatic and poetic works in the principal languages of the world.

Special Examination for Foreign Residence. Students who have had foreign residence may, with the consent of the department, obtain up to 16 hours of special foreign language credit. This may be done by successfully completing a more advanced course in the language and by passing an examination administered by the department. The credit is available upon payment of a special fee. Foreign students are not permitted to obtain credit in this way for their native language.

Semesters Abroad. Language majors and minors are encouraged to participate in the University-sponsored residence programs in Austria, France, and Mexico. These programs are cosponsored by the Department of Languages and provide excellent opportunities for development of language proficiency.

Major and Minor Requirements. In French, German, Spanish, Russian, Portuguese, and Latin the department offers programs leading to a departmental major or minor with the Bachelor of Arts degree. No more than nine hours toward the major may be earned through Department of Home Study courses. Classes which fulfill the requirements of the major field are listed under each separate language offering. Areas that generally serve as minors include a second foreign language, English, one of the other areas in the College of Humanities or the College of Social Sciences, or one of the fine arts.

Teaching Major and Minor. For requirements see Teacher Education.

Prospective Graduate Students. Prospective graduate students are reminded that a second, and sometimes a third, language will be required of them in Graduate School. It is advisable that work in at least one other language be started before the junior year. Students must follow specific steps in their progress toward a graduate degree. It is their responsibility to obtain these regulations from the department chairman and follow them. Graduate students who have the consent of the instructor may register for certain undergraduate courses.

Degrees Offered. The Department of Languages offers the Bachelor of Arts degree in French, German, Latin, Portuguese, Russian, and Spanish; the Master of Arts degree in French, German, Latin, Portuguese, Spanish and Linguistics; and the Doctor of Philosophy degree in French, German, and Spanish.

ARABIC

Courses

101, 102. First Year Arabic. (5:5:2 ea.) F.S. (m)
The modern spoken language. Designed for those who have had no Arabic.

201. Intermediate Arabic Reading and Conversation. (4:4:2) F. (m) Prerequisite: 102 or equivalent.

301. Introduction to Arabic Literature. (4:5:0) S. Prerequisite: Arabic 201 or equivalent.

CHINESE

Courses

101. 102. First Year Chinese. (4:4:2 ea.) F.S. (m)
Designed for those who have had no Chinese.

201. Intermediate Chinese Reading and Conversation. (4:4:1) (m) Prerequisite: Chinese 102.

211. Second Year Conversation. (2:2:0) F.S. Prerequisite: Chinese 102 or consent of instructor.

301. Selected Readings. (4:4:0) S. Prerequisite: Chinese 201 or consent of instructor.

311. Third Year Conversation. (2:2:0) F.S. Prerequisite: Chinese 301 or consent of instructor.

321. 322. Third Year Grammar and Composition. (3:3:0 ea.) F.S.

443, 444. Modern Chinese Literature. (3:3:0 ea.) F.S. (G-HA m) Prerequisite: Chinese 301 or consent of instructor.

490. 491. Individual Study in Chinese. (1-3:Arr.:Arr. ea.)
Assignments made to fit the individual needs of the advanced student.

FRENCH

The following 24 hours of course work beyond the second year are required for a major: French 321, 322, 326, 441, 442, 443, 444, 445, and one additional advanced French course or Ling. 325.

For a departmental minor the following course work beyond the second year is required: French 311, 321, 322, 326, 440, 445.

Courses

95, 96. Beginning French for Graduate Students. (0:5:0 ea.) F.S.Su.
Evening classes only.

101, 102. First Year French. (4:4:4 ea.) F.S.Su. (m)
Designed for those who have had no French. Pronunciation, conversation, reading, fundamentals of grammar, and the building of a substantial vocabulary. Three hours weekly in laboratory and cultural activities.

201. Intermediate French Reading and Conversation. (4:4:1) F.S.Su. Home Study also. (m) Prerequisite: French 102, three years of French in high school, or consent of instructor.

211. Second Year Conversation. (2:2:2) F.S. Prerequisite: French 102 or consent of instructor.

301. Introduction to French Literature. (4:4:0) F.S.Su. Home Study also (m) Prerequisite: French 201 or consent of instructor.
Extensive readings of intermediate and advanced edited texts.

311. Third Year Conversation. (2:2:1) F.S.Su. Prerequisite: French 301 or consent of instructor.

321, 322. Third Year Grammar and Composition. (3:3:0 ea.) F.S. Home Study also. Prerequisite: sixteen hours of French or equivalent.

326. French Phonetics and Pronunciation. (2:2:0) F.S. Prerequisite: French 301.

377. Secondary Teaching Procedures. (3:3:1) F.S. Prerequisites: Tchr. Ed. 301 and French 322 or equivalent as determined by adviser.

415, 416. Advanced Reading for Graduate Students. (3:3:0 ea.) Prerequisite: French 321.
Advanced reading in special fields for Ph.D. candidates who wish to complete their Ph.D. language requirements by intensive study of one language.

429. Introduction to Stylistic and Literary Analysis. (3:3:0) Prerequisite: French 322 or its equivalent.

440. Historical Survey of French Literature. (4:4:0) F.S. Prerequisite: French 301 or consent of instructor.
For minors only.

441, 442. Survey of French Literature and Culture I, Origins to 1800. (3:3:0 ea.) F.S. Home Study also. (G-HA) Prerequisite: French 301 or consent of instructor.
General view of literary periods, movements, and social backgrounds with representative readings.

443. Survey of French Literature and Culture—19th Century. (3:3:0) F.S. Home Study also. (G-HA)

444. Survey of French Literature and Culture—20th Century. (2:2:0) Home Study also. (G-HA Prerequisite: French 301 or consent of instructor.
General view of literary periods, movements, and social backgrounds with representative reading.

445. Introduction to French Civilization. (3:3:0) F.S. Prerequisite: French 301 or consent of instructor.

451. Survey of French Literature and Culture in the Americas. (2:2:0) Su. Prerequisite: French 301 or consent of instructor.

Origins to present time; Canada, United States, Central and South America.

479. Secondary Student Teaching. (4-8:0:20-40) F.S. Prerequisites: Tchr. Ed. 301, French 321, 377.

490, 491. Individual Study in French. (1-3:Arr.:Arr. ea.) F.S.Su.

Assignments are made to fit the individual needs of the advanced student.

492. French Readings (Honors). (1-2:1-2:0) F.S.Su. Prerequisite: French 301 or good reading knowledge of French.

520. French Composition and Grammar. (2:2:1) F.S.Su. Clark, Lee

521. Romance Philology. (2:2:0) F. Clark

522. History of French Language. (2:2:0) S. Clark

601. Bibliography and Research Techniques. (2:2:0) TBA

621. Stylistics. (2:2:0) TBA Smithson

Intensive linguistic and literary analysis of French, especially from modern writers: syntax, translation, advanced stylistic analysis and advanced explication de textes.

660. Old French Literature. (3:3:0) S. Clark, Slade

665. French Literature of the Renaissance. (2:2:0) F. Clark, Slade

670. French Literature of the 17th Century. (2:2:0) S. Brown, Green

675. French Literature of the 18th Century. (2:2:0) F. Clark

680. French Literature of the 19th Century. (3:3:0) S. Green, Lee, Smithson

685. French Literature of the 20th Century. (2:2:0) F. Ball, Lee

690, 691. Directed Readings. (1-2:Arr.:Arr. ea.) F.S.Su. Prerequisite: consent of instructor.

Individual study on a graduate level, to fit the needs of the graduate student.

692, 693. Seminar in Philology. (1-2:1-3:0 ea.) F.S.Su. Clark

694, 695. Seminar in French Literature. (2:2:0 ea.) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

721. Romance Dialects. (3:3:0) F. Clark

723. Old French Phonology and Morphology. (2:2:0) S. Clark

741. History of French Poetry. (2:2:0) TBA Ball, Brown, Clark, Lee

742. History of French Drama. (2:2:0) TBA Ball, Brown, Clark, Green, Lee

744. History of French Novel. (2:2:0) TBA Ball, Brown, Clark, Lee

747. French Literary Criticism. (2:2:0) TBA Clark, Green, Smithson

761. Medieval Narrative and Lyric Poetry. (2:2:0) TBA Clark, Slade

771. Racine, Corneille. (2:2:0) TBA Brown, Green

774. Moliere. (2:2:0) TBA Brown, Green

776. **Montesquieu, Voltaire, Rousseau.** (2:2:0) TBA Clark

781. **French Drama of the 19th Century.** (2:2:0) TBA Lee, Green, Smithson

782. **French Novel of the 19th Century, I.** (2:2:0) TBA Green, Smithson

783. **French Novel of the 19th Century, II.** (2:2:0) S. Lee, Green, Smithson

786. **Modern French Drama.** (2:2:0) TBA Lee

787. **Modern French Novel, I.** (2:2:0) TBA Lee

788. **Modern French Novel, II.** (2:2:0) S. Ball, Green, Lee

790, 791. **Directed Readings.** (1-2:Arr.:0 ea.) Prerequisite: consent of instructor and chairman of committee. F.S.Su.

792, 793. **Seminar in Philology.** (2:2:0 ea.) S.Su. Clark

794A,B. **Seminar in Literature.** (2:2:0 ea.) S.Su.

799. **Dissertation for the Ph.D. Degree.** (1-6:Arr.:0) TBA

GERMAN

The requirements for a major in German are at least 24 hours of upper division courses beyond the second year as follows: German 321, 322, 326, 429 or 441, 442, 443, 444, 445 or 495, and one of the following: Ling. 325, German 429, 441, 445, 495. Required for those planning graduate study (at this or another university): German 441 and 495. Recommended for those who plan to do graduate work in German: Engl. 251 and 450, Hist. 333, Phil. 380 and 471. To be awarded a graduate teaching assistantship in German a student must have passed German 326, 377 and 495 with a "B" or better.

The requirement for a departmental minor in German is 20 hours beyond the first year as follows: German 201, 211, 301, 311, 321, 326 and 445.

(For the requirement for a teaching major or minor, please see Teacher Education.)

Courses

95, 96. **Beginning German for Graduate Students.** (0:5:0 ea.) F.S.Su. Evening Classes only.

101. 102. **First Year German.** (4:4:4 ea.) F.S.Su. (m)
Designed for those who have not had German. Pronunciation, reading, fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.

111, 112, 113, 114. **Intensive Conversational German.** (4:24-12 ea.) F.S.Su.
Intensive conversational German. Memorization of dialogues. German patterns of grammar and idiom with native informant. **Available only through Language Training Mission.**

201. **Intermediate German Reading and Conversation.** (4:4:1) F.S.Su. Home Study also. (m) Prerequisite: German 102 or three units of German in high school or consent of instructor.
Reading, review of grammar, conversation, vocabulary building.

211. **Second Year Conversation.** (2:2:1) F.S. (m) Prerequisite: German 201 or consent of instructor.

301. **Introduction to German Literature.** (4:4:0) F.S.Su. Home Study also. (m) Prerequisite: German 201 or equivalent.
Extensive readings from the literatures of the language, using graded texts. An introduction to basic literary concepts.

311. **Third Year Conversation.** (2:2:1) F.S. (m) Prerequisite: German 301 or consent of instructor.

321. **Third Year Grammar and Composition.** (3:3:0) F.S. (m) Home Study also. Prerequisite: 16 hours of college German or equivalent.

Intended for those students who want to understand and master more than just the fundamental principles of the German language. Intensive drills in grammar, written and oral reports on given subjects.

322. **Third Year Grammar and Composition.** (3:3:0) F.S. Home Study also. Prerequisite: German 321.

Intends to help the advanced student of German in thinking and writing German intelligibly by becoming more familiar with a large number of idioms and synonyms. Introduction to the terminology and fundamentals of German literary analysis and criticism. Emphasis on matters of style rather than on grammar.

326. **German Phonetics and Pronunciation.** (2:2:1) F.S. (m) Prerequisite: German 301. Folsom

377. **Secondary Teaching Procedures.** (3:3:1) F.S. Prerequisite: Tchr. Ed. 301 (only for those who plan to certify) and German 321 or equivalent. Luckau

Skills mastery, hearing, speaking, reading, writing and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations, and application of linguistic techniques to practical classroom requirements.

415, 416. **Advanced Reading for Graduate Students.** (3:3:0 ea.) Prerequisite: German 321. Smith

Advanced reading and translation in the special field of the graduate student who wishes to complete his language requirement by intensive study of one language.

429. **The Structure of German.** (3:3:0) S. Prerequisite: German 322. Folsom

441. **German Literature from the Beginning to 1700.** (3:3:0) F. (G-HA m) Prerequisite: German 301 or equivalent. Folsom, Watkins

442. **German Literature in the 18th Century.** (3:3:0) F. (G-HA m) Prerequisite: German 301 or equivalent. Kelling, Rogers

443. **German Literature in the 19th Century.** (3:3:0) F. Home Study also. (G-HA m) Prerequisite: German 301 or equivalent. Speidel

444. **German Literature in the 20th Century.** (3:3:0) S. (G-HA m) Prerequisite: German 301 or equivalent. Smith

445. **Cultural History of Germany.** (3:3:0) F.S. (m) Watkins

479. **Secondary Student Teaching.** (4-8:0:20-40) F.S. Prerequisites: Tchr. Ed. 301, German 321 and 377. Luckau

490, 491. **Individual Study in German.** (1-3:Arr.:Arr. ea.) F.S.Su.

Assignments are made to fit the individual needs of the advanced student.

492. **German Readings (Honors).** (1-2:1-2:0) F.S.Su. Prerequisite: German 301 or good reading knowledge of German.

495. **Senior Seminar for Majors.** (2:2:0) F.S. Prerequisite: At least 6 hours of German literature (excluding 301). Smith

520. **Advanced German Composition and Grammar.** (2:2:0) S.Su. Prerequisite: German 321 or 322 or consent of instructor.

522. **History of the German Language.** (2:2:0) S. Prerequisite: three years of college German or its equivalent. Folsom, Watkins

601. **Bibliography and Research Techniques.** (2:2:0) F. Kelling, Smith

622. **Gothic.** (3:3:0) F. Watkins

623. **Old High German and Old Saxon.** (3:3:0) S. Folsom, Watkins

628, 629. **Middle High German I, II.** (3:3:0 ea.) F.S. Folsom, Watkins

681. **German Romanticism.** (2:2:0) Arr. Speidel

683. **German Realism.** (2:2:0) Arr.

690, 691. **Directed Readings.** (2:Arr.:0 ea.) F.S.Su.

692, 693. **Seminar in Philology.** (2:2:0 ea.) S.Su.
Special problems and topics of relevance in German philology. Topics and instructors to be announced.

694, 695. **Seminar in Literature.** (2:2:0 ea.) F.S.Su.
Intensive analysis of a particular writer, a major work or a limited theme. Training in independent literary research. Topic and professor change each semester.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

741. **German Lyric Poetry.** (2:2:0) F. Kelling

742. **The German Drama to 1880.** (2:2:0) F. Rogers

743. **The German Drama from 1880 to Present.** (2:2:0) S. Rogers

744. **The German Novel to 1880.** (2:2:0) F. Speidel

745. **The German Novel from 1880 to Present.** (2:2:0) S. Speidel

746. **The German Short Story.** (2:2:0) S. Smith

776. **Lessing.** (2:2:0) F. Rogers

777. **Schiller.** (2:2:0) S. Smith

778. **Goethe.** (2:2:0) F. Kelling

790, 791. **Directed Readings.** (1-2:Arr.:0 ea.) F.S.Su.

792, 793. **Seminar in Philology.** (2:2:0 ea.) S.Su.
Advanced investigation and analysis of special problems and topics in Germanic philology. Topics and professors will vary.

794A,B. **Seminar in Literature.** (2:2:0 ea.) S.Su.
Advanced research and analysis of a limited theme or particular writer. Subject will vary. Topic and professor to be announced.

799. **Dissertation for the Ph.D. Degree.** (Arr.) F.S.Su.

GREEK

Courses

101, 102. **Elementary Greek.** (4:4:0 ea.) F.S. (m)

201. **Intermediate Greek Reading and Composition.** (4:4:1) F. (m)

301. **Introduction to Greek Literature.** (4:4:0) S. (G-HA m) Prerequisite: Greek 201 or consent of instructor.

HEBREW

Courses

101, 102. **First Year Hebrew.** (4:4:0 ea.) F.S. (m) Rasmussen
A beginning course in the classical Hebrew of the Old Testament. Valuable for students and teachers as a tool for interpreting and appreciating the Bible.

201. **Second Year Hebrew.** (4:4:0) F. (m) Prerequisite: Hebrew 101, 102 or equivalent acquaintance with Hebrew. Rasmussen

301. **Selected Readings.** (4:4:0) S. Prerequisite: Hebrew 101, 102, 201 or equivalent acquaintance with Hebrew. Rasmussen

ITALIAN

Courses

101, 102. **First Year Italian.** (4:4:1 ea) F.S. (m) Gibson
Special attention to accurate pronunciation for benefit of students of music and art for whom Italian has special interest and value. Grammar and graded reading.

201. **Intermediate Italian Reading and Conversation.** (4:4:0) F. (m) Prerequisite: Italian 102 or two units of Italian in high school. Gibson

301. **Introduction to Italian Literature.** (4:4:0) S. Prerequisite: Italian 201 or consent of instructor. Gibson
Extensive reading of intermediate texts.

321, 322. **Third Year Grammar and Composition.** (3:3:0 ea.) F.S. Prerequisite: Italian 301 or equivalent. Gibson

431, 432. **Masterpieces of Italian Literature.** (3:3:0 ea.) F.S. (G-HA) Prerequisite: Italian 301 or consent of instructor. Gibson

490, 491. **Individual Study in Italian.** (1-3: Arr.:Arr. ea.) F.S. Gibson
Assignments made to fit the individual needs of the advanced student.

JAPANESE

Courses

101, 102. **First Year Japanese.** (4:4:1 ea.) F.S. (m)
Constant study of the writing systems. Fundamentals of grammar and the building of a substantial vocabulary. Easy conversation and composition throughout.

201. **Intermediate Reading and Conversation.** (4:4:2) F. (m) Prerequisite: Japanese 102 or consent of instructor.

211. **Second Year Conversation.** (2:2:0) F.S. Prerequisite: Japanese 102 or consent of instructor. Hyer

301. **Introduction to Japanese Literature.** (4:4:0) S. (m) Prerequisite: Japanese 201 or equivalent.

311. **Third Year Conversation.** (2:2:0) F.S. Prerequisite: Japanese 301 or consent of instructor. Hyer

321, 322. **Third Year Grammar and Composition.** (3:3:0 ea.) F.S. Prerequisite: Japanese 301 or consent of instructor. Hyer

490, 491. **Individual Study in Japanese.** (1-3:Arr.:Arr. ea.) F.S.Su.
Assignments made to fit the individual needs of the advanced student.

KOREAN

Courses

101, 102. **First Year Korean.** (4:4:2 ea.) F.S.
The modern spoken language. Designed for those who have had no Korean.

201. **Intermediate Korean Reading and Conversation.** (4:5:0) F.S. Prerequisite: Korean 102 or equivalent.

301. **Introduction to Korean Literature.** (4:5:0) S. Prerequisite: Korean 201 or equivalent.

LATIN

The requirement for a major is 24 hours of upper division courses which must include Latin 321, 322, 431, 432, 441, 442, and 6 hours from 316, 429, 490, 491.

The requirement for a departmental minor is 14 hours of upper division courses including Latin 441, 442, and 4 hours of electives from 301, 321, 322, 377, 431, 432, 490, 491.

Courses

101, 102. **First Year Latin.** (4:4:0 ea.) F.S.Su. (m) Clark
Designed for those who have had no Latin. Mastery of pronunciation, declensions, and conjugations. Correlation of Latin originals with English derivatives. Graded reading. Characteristics of Roman civilization.

111, 112. **Beginning Latin—Accelerated.** (4:4:0 ea.) F.S.

201. **Second Year Latin.** (4:4:0) F.Su. Home Study also. (m) Prerequisite: Latin 102 or three units of Latin in high school. Clark
Readings from Caesar, Livy, etc. with a review and continuation of grammar.

301. **Introduction to Latin Literature.** (4:4:0) S.Su. Home Study also. (m) Prerequisite: Latin 201. Clark

315. **Prelegal Latin.** (2:2:0) F. Prerequisite: consent of instructor. Clark
Recommended for prelegal students.

316. **Premedical Latin and Greek.** (3:2:0) S. Prerequisite: consent of instructor. Clark

321, 322. **Third Year Grammar and Composition.** (3:3:0 ea.) F.S. Prerequisite: Latin 301 or 112 or equivalent.

377. **Secondary Teaching Procedures.** (3:3:1) F.S.Su. Prerequisites: Tchr. Ed. 301 and Latin 322 or equivalent.
Skills mastery, hearing, speaking, reading, writing and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations, and application of linguistic techniques to practical classroom requirements.

429. **Latin Stylistic and Literary Analysis.** (3:3:0) F.S. Prerequisite: Latin 322 or equivalent. Clark

431, 432. **Masterpieces of Latin Literature.** (3:3:0 ea.) F.S. (G-HA m) Prerequisite: Latin 301 or 112 or equivalent or consent of instructor. Clark

441, 442. **Survey of Latin Literature and Culture.** (3:3:0 ea.) F.S. (G-HA) Clark

479. **Secondary Student Teaching.** (4-8:1:20-40) F.S. Prerequisites: Tchr. Ed. 301, Latin 321, 377.

490, 491. **Individual Study in Latin.** (1-3:Arr.:Arr. ea.) F.S.Su. Clark

520. **Advanced Composition and Grammar.** (2:2:0) S. Prerequisite: Latin 322 or equivalent. Clark

561, 562. **Elementary and Advanced Medieval Latin.** (2:2:0 ea.) F.S. Prerequisite: Latin 301 or 112 or equivalent. Clark

661. **Cicero.** (3:3:0) F. **Clark**

665. **The Latin Historians.** (2:2:0) F. Clark

671. **Virgil.** (3:3:0) S. Clark

675. **The Latin Poets.** (3:3:0) F. Clark
Horace, Ovid, Lucretius, etc.

679. **The Latin Dramatists.** (3:3:0) S. Clark
Plautus, Terence, etc.

681, 682. **The Latin Fathers.** (3:3:0 ea.) F.S. Prerequisite: consent of instructor.

690, 691. **Directed Readings.** (1-2:Arr.:Arr. ea.) F.S.Su. Clark
Individual study on a graduate level.

692, 693. **Seminar in Philology.** (2:2:0 ea.) F.S. Clark

694, 695. **Seminar in Literature.** (2:2:0 ea.) S.Su. Clark

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

NORWEGIAN

Courses

101, 102. **First Year Norwegian.** (4:4:2 ea.) F.S. Watkins
Designed for those who have had no Norwegian.

201. **Intermediate Norwegian Reading and Conversation.** (4:4:1) F.S. Prerequisite: Norwegian 102 or consent of instructor. Watkins

490, 491. **Individual Study in Norwegian.** (1-3:Arr.:Arr. ea.) F.S.Su. Watkins
Assignments are made to fit the individual needs of the advanced student.

PORTUGUESE

The requirement for a major is 24 hours of upper division courses which must include the following: Portuguese 321, 322, 431, 432, 521, 552, 553 (or equivalents).

The requirement for a departmental minor is 14 hours of upper division courses, which must include Portuguese 321, 322, 431, and 432.

Courses

101, 102. **First Year Portuguese.** (4:4:1 ea.) F.S. (m)
A beginning course. Pronunciation, conversation, reading, and fundamentals of grammar. Special attention to Portuguese as the language of Brazil.

111, 112, 113, 114. **Intensive Conversational Portuguese.** (4:24:12 ea.) F.S.Su.
Intensive conversational Portuguese. Memorization of dialogues. Portuguese patterns of grammar and idiom with native informant. **Available only through Language Training Mission.**

201. **Intermediate Portuguese Reading and Conversation.** (4:4:0) F. Home Study also. (m) Prerequisite: Portuguese 102 or three units of Portuguese in high school.

301. **Introduction to Brazilian and Portuguese Literature.** (4:4:0) S. Home Study also. (m) Prerequisite: Portuguese 201.
Extensive readings of intermediate edited texts.

321, 322. **Third Year Grammar and Composition.** (3:3:0 ea.) F.S. Prerequisites: Portuguese 301; 16 hours of Portuguese or the equivalent. de Jong

431, 432. **Masterpieces of Brazilian and Portuguese Literature.** (3:3:0 ea.) F.S. Home Study also. (G-HA) Prerequisite: Portuguese 301 or consent of instructor. de Jong

490, 491. **Individual Study in Portuguese.** (1-3: Arr.: Arr. ea.) F.S.Su. de Jong

521. **Romance Philology.** (2:2:0) F. Clark

552. **Machado de Assis.** (2:2:0) F. Prerequisites: Portuguese 431 and 432 or equivalent.

553. **O Modernismo.** (2:2:0) S. Prerequisites: Portuguese 431 and 432 or equivalent.
The modern movement in Brazilian literature (1920-1945).

620, 621. **Portuguese Composition and Conversation.** (3:3:0 ea.) F.S. de Jong

641. **Introduction to Portuguese Literature.** (3:3:0) F.S. de Jong

642. **Contemporary Portuguese Literature.** (3:3:0) S. de Jong

650. **Introduction to Brazilian Literature.** (3:3:0) F.S. de Jong

651. **Contemporary Brazilian Literature.** (3:3:0) S. de Jong

690. **Directed Readings.** (1-2:0:Arr.) F.S.Su.

692. **Seminar in Philology.** (2:2:0) F.S. de Jong

694, 695. **Seminar in Literature.** (2:2:0 ea.) S.Su.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.

RUSSIAN

The following courses are required for the major in Russian: 201, 211, 301, 311, 312, 321, 322, 326, 441, 445. For the minor 201, 211, 301, 311, 321, 326, and 445 are required. Ling. 325 is strongly recommended, and 377 is required for either the teaching major or minor, in addition to the courses listed above.

Courses

101, 102. **First Year Russian Grammar and Composition.** (5:5:3 ea.) F.S.Su. (m) Gubler, Lysenko

201. **Intermediate Russian Reading and Conversation.** (5:5:3) F.S.Su. (m) Prerequisite: Russian 102 or consent of instructor, based on prior Russian language experience. Gubler, Lysenko
Designed for those who have had Russian. Pronunciation and conversation.

211. **Second Year Conversation.** (2:2:2) F.S. (m) Prerequisite: Russian 201 or consent of instructor. Gubler, Lysenko

301. **Introduction to Russian Literature.** (3:3:0) F.S. (m) Prerequisite: Russian 201 or consent of instructor. To be taken with Russian 211. Gubler, Lysenko

311, 312. **Third Year Conversation.** (2:2:1 ea.) F.S. (m) Prerequisite: Russian 301 or consent of instructor. Gubler, Lysenko

321, 322. **Third Year Grammar and Composition.** (3:3:0 ea.) F.S. (m) Prerequisite: Russian 301 or equivalent. Gubler, Lysenko

326. **Russian Phonetics and Pronunciation.** (2:2:1) F. (m) Prerequisite: Russian 301 or consent of instructor. Gubler, Blair

377. **Secondary Teaching Procedures.** (3:3:1) F.S. Prerequisite: Tchr. Ed. 301 and Russian 322 or equivalent.
Skills mastery, hearing, speaking, reading, writing, and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations and application of lingual techniques to practical classroom requirements.

385, 386. **Scientific Russian.** (2:2:0 ea.) F.S. Evening classes only. Prerequisites: one year of college Russian or equivalent. Lysenko

441, 442. **Survey of Russian Literature to 1900.** (3:3:0 ea.) F.S. (G-HA) Prerequisite: Russian 322 or equivalent. Gubler, Lysenko

443, 444. **Survey of Russian Literature of the 20th Century.** (3:3:0 ea.) F.S. (G-HA) Prerequisite: Russian 322. Gubler, Lysenko

445. Cultural History of Russia. (3:3:0) S. (m) Prerequisite: Russian 301 or equivalent. Lysenko

479. Secondary Student Teaching. (4-8:1:20-40) F.S. Prerequisites: Tchr. Ed. 301, Russian 321 and 377.

490, 491. Individual Study in Russian. (1-2: Arr.:Arr. ea.) F.S.Su. Gubler, Lysenko

Assignments made to fit the needs of the advanced student.

SPANISH

The requirement of a major in Spanish is 24 hours of upper division courses beyond the second year, which must include Spanish 321, 322, 441, 451. The additional 12 hours are to be taken from other advanced Spanish offerings beyond 322 or Ling. 325.

The requirement for a departmental minor is 12 hours of upper division courses beyond the second year, including Spanish 321, 326, 441 or 451, 445 or 351. (For requirements for a teaching major or minor see Teacher Education.) Spanish 326 and 377 are required for a graduate teaching assistantship.

Courses

95, 96. Beginning Spanish for Graduate Students. (0:5:0 ea.) F.S.Su. Evening Classes only.

101, 102. First Year Spanish. (4:4:4 ea.) F.S.Su. (m)

An audio-lingual approach emphasizing pattern practice and common grammatical structures.

111, 112, 113, 114. Intensive Conversational Spanish. (4:24:12 ea.) F.S.Su. Wilkins

Intensive conversational Spanish. Memorization of dialogues. Spanish patterns of grammar and idiom with native informant. **Available only through Language Training Mission.**

201. Intermediate Spanish Reading and Conversation. (4:4:1) F.S.Su. Home Study also. (m) Prerequisite: Spanish 102 or three units of high school Spanish or consent of instructor.

301. Introduction to Spanish Literature. (4:5:0) F.S.Su. Home Study also (m) Prerequisite: Spanish 201 or equivalent.

311. Third Year Conversation. (2:2:1) F.S. Prerequisite: Spanish 301 or consent of instructor.

321, 322. Third Year Grammar and Composition. (3:3:0 ea.) F.S. Home Study also. (m) Prerequisite: Spanish 301 or equivalent.

326. Spanish Phonetics and Pronunciation. (2:2:0) F.S. (m) Anderson, Brown

351. Hispanic Civilizations. (2:2:0) F.S.Su. (G-HA) (Offered only in foreign residence programs.)

377. Secondary Teaching Procedures. (3:3:1) (Education credit only.) F.S. Prerequisites: Tchr. Ed. 301 and Spanish 322 or equivalent. Rosen, Taylor

Skills mastery, hearing, speaking, reading, writing, and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations and application of linguistic techniques to practical classroom requirements.

441. Survey of Spanish Literature. (3:3:0) F.S.Su. (G-HA m) Home Study also. Prerequisite: Spanish 301 or consent of instructor. This course is a prerequisite to all Spanish peninsular literature classes. Anderson, Gibson, Moon, Rosen, Valentine

445. The Culture of the Hispanic World. (3:3:0) F.S.Su. (m) Prerequisite: Spanish 301 or consent of instructor. Gibson

451. **Survey of Hispanic-American Literature.** (3:3:0) F.S.Su. (G-HA m) Home Study also. Prerequisite: Spanish 301 or consent of instructor. (Spanish 441 strongly recommended.) This course is a prerequisite to all other Spanish-American Literature courses. Brown, Compton

454. **Hispanic-American Novel.** (3:3:0) F.S. Prerequisite: Spanish 451 or consent of instructor. Brown, Compton, Valentine

458. **Hispanic-American Short Story.** (3:3:0) S. Prerequisite: Spanish 451 or consent of instructor. Brown, Compton, Valentine

An introduction to the short story and its development as an important literary genre in Spanish America, with principal authors.

470. **The Narrative of the Golden Age.** (3:3:0) F.S. (G-HA) Prerequisite: Spanish 441 or consent of instructor. Moon, Gibson

479. **Secondary Student Teaching.** (4-8:0:20-40) F.S. Prerequisites: Tchr. Ed. 301, Spanish 301 and 377. Rosen, Taylor

485. **Introduction to Contemporary Spanish Literature.** (3:3:0) F. Prerequisite: Spanish 441 or consent of instructor. Anderson, Moon

490, 491. **Individual Study in Spanish.** (1-3:Arr.:Arr. ea.) F.S.Su.

Assignments are made to fit the individual needs of the advanced student.

492. **Spanish Readings (Honors).** (1-2:1-2:0) F.S.Su. Prerequisite: Spanish 301 or good reading knowledge of Spanish.

520. **Advanced Spanish Composition and Grammar.** (2:2:0) F.S.Su.

521. **Romance Philology.** (2:2:0) F. Clark

522. **History of the Spanish Language.** (2:2:0) S. Gibson

556. **Hispanic-American Poetry.** (3:3:0) F.S. Compton, Valentine

580. **Nineteenth Century Spanish Drama and Poetry.** (3:3:0) F.S. Prerequisite: Spanish 441 or consent of instructor. Gibson

581. **The Nineteenth Century Spanish Novel.** (3:3:0) F.S. Prerequisite: Spanish 441 or consent of instructor. Gibson

584. **Generation of '98.** (3:3:0) F.S. Anderson, Moon

601. **Bibliography and Research Techniques.** (2:2:0) F.

653. **Hispanic-American Drama.** (2:2:0) F.S. Valentine

654. **Mexican Novel.** (2:2:0) F.S. Compton, Valentine

655. **South American Novel.** (2:2:0) F.S. Compton, Valentine

656. **The Modernista Movement.** (2:2:0) S. Compton, Valentine

657. **Hispanic-American Essay.** (2:2:0) F. Valentine

658. **Hispanic-American Short Story.** (2:2:0) F.S. Compton, Valentine

660. **Spanish Medieval Literature.** (2:2:0) F. Gibson

670. **Golden Age Drama.** (2:2:0) F.S. Compton, Gibson, Moon

671. **Golden Age Prose.** (2:2:0) F.S. Compton, Gibson, Moon

672. **Golden Age of Poetry.** (nondramatic) (2:2:0) F.S. Compton, Gibson, Moon

685, 686. **Twentieth Century Literature.** (2:2:0 ea.) F.S. Anderson, Moon

690, 691. **Directed Readings.** (1-2: Arr.:Arr. ea.) F.S.Su. Prerequisite: consent of instructor.

Individual study on a graduate level, to fit the needs of the graduate student.

692. Seminar in Philology. (2:2:0) F.S.Su. Clark

694, 695. Seminar in Spanish Literature. (2:2:0 ea.) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

721. Romance Dialects. (3:3:0) F. Clark

741. The Spanish Poetic Tradition. (2:2:0) F.

742. The Development of Spanish Drama. (2:2:0) S.

744. Spanish Novelistic Prose. (2:2:0) F.

773. Cervantes. (2:2:0) S.

774. Lope de Vega. (2:2:0) F.

790, 791. Directed Readings. (1-2:Arr.:0 ea.) F.S.Su.

792, 793. Seminar in Philology. (2:2:0 ea.) F.S.

794A,B. Seminar in Literature. (2:2:0 ea.) F.S.

799. Dissertation for the Ph.D. Degree. (Arr.:Arr.:Arr.) F.S.Su.

LINGUISTICS

Courses

325. Introduction to Descriptive Linguistics. (3:3:0) F.S.Su. Blair, Folsom
An introduction to linguistics which includes an introduction to the scientific study of language for students in foreign languages, English, and anthropology. Includes the nature and description of language, its sounds and grammar.

326. Introduction to Historical and Comparative Linguistics. (3:3:0) F.S. Blair, Folsom
An introduction to the historical and comparative study of language for students in foreign languages, English, and anthropology.

360. Practical Phonetics. (2:2:0) F.S.
Elementary principles of speech mechanics in their relation to correct diction.

423. Linguistics and Language Learning. (2:2:0) F.S. Blair, Folsom
The application of linguistic science to problems in language learning. An introduction to contrastive linguistics.

493. Readings in Linguistics. (1-3:0:Arr.) F.S.

525. Descriptive Phonology. (3:3:0) F. Blair
The articulatory and structural description of the sounds of language.

527. Descriptive Morphology. (3:3:0) S. Blair
The structural description of linguistic forms.

529. Linguistic Structures. (3:3:1) S. Blair
A consideration and comparison of the phonological and morphological structures of several non-Indo-European languages. Students will work with native informants.

693. Seminar in Linguistics. (2:2:0) S. Blair
Discussion of selected topics in linguistics.

SEMITICS

Aramaic, Akkadian, Egyptian, Syriac, Ugaritic

For languages other than Hebrew and Arabic see the Department of Graduate Studies in Religious Instruction Section.

Latin-American Studies

Assistant Professor: Lyman S. Shreeve, Sr. (coordinator, 277 McK).

The Latin-American Studies Program is an interdepartmental and intercollege area program, which, in combination with a major in one of the departments of the University, leads to a B.A. degree. The Latin-American program provides either a concurrent major or a minor to accompany the departmental major. The program is designed to meet the professional and cultural goals of persons especially interested in Latin America, whose needs are not fully served by a major in one department. The Department of Languages offers training in the languages and literatures of Latin America; the Political Science Department, the governments and political institutions, and so forth. Those who seek employment in business or governmental agencies in Latin America, or who for other reasons are interested in the area, may best prepare themselves professionally by broad study in the languages, literatures, culture, geography, politics, history, and economy of the region. The Latin-American Studies Program is designed to fill these requirements. Students interested in Latin America who plan to do graduate study or to teach will find their needs met by the double major program, which combines the advantages found in the breadth of a comprehensive understanding of an area with those to be had in the depth through a major in a single discipline.

Requirements for a concurrent major (no minor required):

1. A major in one of the departments of the University.
2. A total of 28 hours in courses dealing with Latin America (in addition to the first two years of college Portuguese or Spanish, or the equivalent) divided as follows:
    - A. Portuguese 321, 431, and 432; or Spanish 321, 451, and one additional course in Latin-American literature.
    - B. At least 10 hours selected from the starred courses beyond those of requirement A.
    - C. Other courses dealing with the area to make a total of 28 hours.
    - D. No course taken to fill requirements A, B, and C may be counted toward the departmental major. If Portuguese or Spanish is chosen as the departmental major, all 28 hours are to be selected from courses not counted as part of the language major.
    - E. At least three different subject areas outside that of the departmental major are to be represented by the courses taken to fill requirements B and C.

Requirements for a minor:

A total of 14 hours (in addition to the first two years of college Portuguese or Spanish, or the equivalent) from the list of approved courses, at least 8 hours of which are to be from the starred courses. These 14 hours are to represent at least three different departments. No courses may count toward both the major and the minor.

The coordinator may approve satisfactory equivalents, in consultation with the departments. However, in no case shall the requirements be less than those stated above.

Following are the courses in the program:

		Hours
Anthropology		
246.	The Growth of Culture in the New World	2
*418.	Native Peoples of Central and South America	3
[1]Archaeology		
310.	Archaeology and the Scriptures	4
*440.	Archaeology and Early History of Middle America	3
*465.	Archaeology of South America	2
590.	Recent Developments in Archaeology	2
[2]Economics		
111 or 112.	Introduction to Economic Principles and Problems	3 ea.
241.	Comparative Economic Systems	3
358.	International Trade and Finance	3
*430.	Economic Development	3
[3]Geography		
*455.	Latin America	3
556.	South America	2
557.	Caribbean Area	2
History		
334.	Spain	3
*351.	History of Latin America I	3
*352.	History of Latin America II	3
353.	Mexico	2
Political Science		
*356.	Government and Politics of South America	3
375.	International Organizations	3
*456.	Government and Politics of Mexico and the Caribbean	3
498.	Directed Readings	1-2
Portuguese		
321.	Advanced Grammar and Composition	3
*322.	Portuguese Composition and Conversation	3
*431, 432.	Masterpieces of Brazilian and Portuguese Literature	3
Spanish		
321.	Advanced Grammar and Composition	3
*322.	Spanish Composition and Conversation	3
441.	Survey of Spanish Literature	3
445.	The Culture of the Hispanic World	3
*451.	Survey of Hispanic-American Literature	3
454.	Hispanic-American Novel	3
458.	Hispanic-American Short Story	3
556.	Hispanic-American Poetry	3

[1] Archaeol. 200, which may count toward the social science requirement, is a suggested prerequisite to all advanced courses.

[2] Econ. 101 or 111, and 112 are prerequisites for Econ. 358 and 430. Any of these courses may be used in filling the social science requirement. Either 111 or 112 (not both) may be counted toward the Latin-American Studies Program.

[3] Geog. 455 is a prerequisite to Geog. 556 and 557.

Library Science

Professor: Tyler.

Associate Professor: T. Johnson (director, 324 JRCL).

Assistant Professors: G. Jenson, Knight (assistant director, 532 JRCL), Purdy.

Instructors: Flake, A. Jensen, Lamson, Larsen, Schmidt, C. Smith.

The undergraduate library science program provides basic courses for students wishing to obtain a minor or become certified as school librarians or to prepare for many public library positions.

A minor requires from 14 to 16 hours (depending upon the regulations of the major department) of selected courses including 355, 363, 370, 466 and Tchr. Ed. 406. Electives include Tchr. Ed. 340, Engl. 420, Hum. 101 or 201, Speech 527 and Lib. Sci. 569 or 585.

For official teacher certification requirements see section for Department of Teacher Education in this catalog.

Also on the undergraduate level an associate degree (2 yrs.) or library technician diploma may be obtained by following a prescribed course of study of library science, business education, and general education classes. (This program is fully outlined in the College of Industrial and Technical Education section in this catalog.)

The graduate library program provides professional training for the student wishing to obtain a master's degree in library science. Emphasis in this program will be on general preparation, but some elective courses will allow the student to become somewhat specialized in such areas as reader services or in methods of information retrieval.

Requirements for Admission to the Master's Degree Program:

Same as general university requirements for graduate study but with a 3.0 grade-point average for the last two years of undergraduate work. At least one foreign language (before graduation) reading knowledge or 12 semester hours of college credit. The special 95, 96 series for graduate students may be used. This should be a modern language such as French, German, Spanish or Russian.

An interview may be requested. Applicant must have taken the G.R.E. (Graduate Record Examination) aptitude and area tests. Some typing ability is highly recommended. Student must give satisfactory evidence of English proficiency. A special course may be required.

Prerequisite Courses: 355, 370, 363, and Tchr. Ed. 406.

Graduation Requirements: 32 semester hours of which a total of 10 may be in another field. Not more than 9 hours may be accepted as transfer credit. Not more than 6 of this may be counted as graduate credit.

Candidates are expected to maintain a grade-point average of "B" and pass a comprehensive examination before graduation. No thesis is required, but a comprehensive research project is to be completed by each student.

Courses

111. Use of Books and Libraries. (1:2:0 for ½ term) F.S.Su.
Efficient use of library materials; card catalog, use of general reference books (bibliographies, dictionaries, encyclopedias, and indexes); and making of bibliographies.

☐**Humanities 201. A Historical Survey of the Arts.** (3:3:0)

☐**Teacher Education 340. Children's Literature.** (2:2:0)

355. Classification and Cataloging. (3:3:0) S.Su. (m) Prerequisite: ability to typewrite. Jenson
Theory and principles of classification and cataloging of books in libraries. Practical problems and laboratory practice.

363. The Library in Society. (3:2:2) F.Su. Home Study also. (m) Knight
Fundamentals of library service. General organization and administration in all types of libraries. Emphasis on physical facilities, objectives, and management. Thirty hours of practice work required.

370. Introduction to Bibliography. (3:3:0) F.S.Su. (m) Schmidt, Knight
Intensive study of the content and use of reference books: encyclopedias, dictionaries, indexes, yearbooks, bibliographies, atlases, and biographies. Bibliographical form stressed.

☐**Teacher Education 406. Teaching Materials Laboratory (Audio-Visual Aids).** (2:2:1).

☐**English 420. Literature for Adolescents.** (2:2:0)

☐**Computer Science 451. Information Systems Analysis.** (3:3:0) Prerequisites: Comput. Sci. 331 or equivalent.

466. Book Selection. (3:3:0) S.Su. (m) Knight
Principles, criteria, and practice in selection of books and other library materials.

☐**Speech 527. Storytelling.** (2:2:0)

☐**Communications 535. Public Relations.** (3:3:0)

541. Reader Services. (3:3:Arr.) F.Su. Knight
Study of the usual services to the reader in all types of libraries, basis of these services, observation of many of them. Community study.

555. Advanced Cataloging. (3:3:0) F.Su. G. Jenson
Review and extension of general descriptive cataloging, classification and subject heading problems. Laboratory assignments using the unabridged Dewey and Library of Congress headings.

563. School Library Administration. (3:3:0) F.Su.
The place of the library in the educational program, school library standards, special problems in personnel, space and equipment, budget, and services of the school library as instructional materials center.

569. Reading Guidance for Young People. (2:2:0) S.Su. A. Jensen
A critical study of the reading interests and needs of young people. Problems of the reluctant and the avid reader. Extensive examination, discussion and reading of books.

570. National, Regional and Subject Bibliography. (2:2:0) F.S.Su.
Characteristics and problems of national bibliographies; becoming familiar with the history and content of such bibliographies and with the techniques of recording materials for availability.

571. Bibliography of the Sciences. (3:3:0) S.Su. H. T. Johnson

572. **Bibliography of the Humanities.** (3:3:0) F.Su.

573. **Bibliography of the Social Sciences.** (3:3:0) S.Su. Knight

580-584. **Workshop: Current and Special Problems.** (1-2:1-2 weeks: 40-50 hrs. per week ea.)

585. **History of the Book.** (2:2:0) S.Su. Flake
Development of printing, bookmaking and libraries from earliest times to present.

☐**Graduate Education 610. Development of Instructional Materials (Audio-Visual Aids).** (2:2:1).

630. **Government Publications.** (3:3:0) S.Su.
Intensive study of documents published by federal, state, and local governments and the U.N. with attention to their selection, organization and use in different types of libraries.

640. **Documentation and Information Retrieval.** (3:3:0) S.Su. Johnson
Survey of methods of copying, indexing and retrieving information with emphasis on systems using machine search.

650. **Current Problems in the Technical Services.** (2:2:0) Su.
General review of the technical processes emphasizing individual problems encountered in school and public libraries.

663. **Library Administration and Management.** (3:3:0) S.Su.
Principles of good administration and management in public and academic libraries. Such things as personnel, finance, buildings and equipment, line of authority, etc. will be considered.

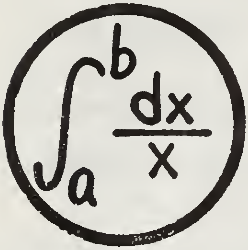
679. **Patterns and Problems of Adult Readers.** (3:3:0) F.Su.
Reading interests and habits of adults, survey of studies, materials for various types of readers, reader guidance, reader's advisory service, role of the library in adult education.

690. **Field Seminar.** (3:3:2½) S.Su. Johnson
Reports and discussion concerned with fieldwork—problem recognition and solving in library organization, services, and management.

695, 696. **Independent Readings in Library Science.** (1-2:Arr.:Arr. ea.) F.S.Su. Johnson

698. **Research in Library Science.** (2:2:0) S.Su. Johnson
Research on a specific problem in the library field.

Mathematics



Professors:	Fletcher, Robinson.
Associate Professors:	Hillam (chairman, 46 T-15), Olpin, Yearout.
Assistant Professors:	Burton, Egbert, Gee, Haupt, Higgins, Jamison, Moore, J. M. Petersen, Skarda, Tolman, Werner, Wickes.
Instructors:	Garner, Miles, Wight.

The Mathematics Department offers courses leading toward the Bachelor of Science and Master of Science degrees in mathematics and a Master of Science degree in mathematics education.

Mathematics Requirements for Bachelor of Science Degree

An undergraduate major in mathematics must present a program prepared in consultation with an adviser appointed by the department. In this program he is required to complete with a grade of "C—" or better:

(1) The courses: Math. 332, 371, 434, 541.

(2) A minimum of 12 additional hours selected with prior approval of department from the courses, Math. 314, 372, 387, 411, 412, 435, 436, 451, 542, 551, 552, 585.

A student who obtains a teaching certificate concurrently with his baccalaureate degree in mathematics may substitute two of the courses, Math. 300, 301, 302 for six of the twelve hours in requirement (2).

In addition to the above listed courses each departmental major is required to pass a written comprehensive examination.

A student who plans to do graduate work in mathematics should realize the need for meeting more than the minimum requirements. He should also realize that the sequence in advanced calculus is a prerequisite for admission on a degree-seeking basis to the graduate program at Brigham Young University as it is at many other universities.

Suggested Program: The following program is given as a guide in planning for those who wish to major in mathematics.

Freshman Year

	F	S
Math. 141, 142	4	4
Engl.	3	3
Undergrad. Relig. 121, 122	2	2
Health 130	2	
Hist. 170		3
P.E.	½	½
Dev. assy.	½	½
Elective (minor)	3	3
Elective (gen. ed.)	3	2
	18	18

Sophomore Year

	F	S
Math. 243, 244	3	3
Math. 371, 372	3	3
Undergrad. relig.	2	2
P.E.	½	½
Dev. assy.	½	½
Language	4	4
Elective (minor)	3	3
Elective (gen ed.)	2	2
	18	18

If a student has not had adequate preparation in mathematics to permit him to begin his college work at the level of analytic geometry and calculus he should substitute the necessary prerequisite courses in place of Math. 141 in the above program. However, he should realize that as a consequence additional time will probably be required to complete all the requirements for graduation.

Majors in mathematics are encouraged to take advantage of the four hours of religion credit that may be earned by attending the devotional assemblies each of the four years of the undergraduate program.

In selecting courses to meet the physical science group requirement a mathematics major should consider only the following: Chem. 105, 106 or 111, 112, Geol. 103, 111, 112, 306, Physics 121, 122, 221, 222 or 211, 212, 213, 214.

Ordinarily students majoring in mathematics elect to minor in chemistry, physics or statistics. If a student wishes to minor in an area other than these, he should consult with the chairman of the Department of Mathematics.

Language. The student is urged to achieve competence in French, German or Russian while an undergraduate.

Mathematics Teaching. Students who wish to prepare to teach mathematics in secondary schools with an academic major in mathematics should consult with the Department of Mathematics. Those students who wish to obtain a degree from the College of Education with a teaching major in mathematics should consult the listings in the Teacher Education Deparment.

Undergraduate Minors

A student who wishes to minor in mathematics must complete with a grade of "C—" or better, 9 hours of course work in those courses which are designated by (m) in the listing below.

Graduate Degrees

The Department of Mathematics offers courses leading to the degrees of Master of Science in mathematics and Master of Science in mathematics education. Complete details are available in the Graduate School Catalog.

Courses

51. Plane Geometry. (0:3:0) (Offered on demand)
Equivalent to high school plane geometry. This is required of all students majoring in the College of Physical and Engineering Sciences. This is also offered by correspondence prior to entrance as a freshman.

90. Algebra. (0:3:0) (Offered on demand)
Equivalent to first year high school algebra.

97. Mathematical Review. (0:3:0) F.S.Su. Prerequisite: Math. 111.
An intensive review of mathematics through calculus, for returning missionaries and others. Offered on the block plan each block. Concurrent registration in a credit course is allowed.

101. Intermediate Algebra. (3:5:0) F.S.Su. Prerequisites: 1 year of high school algebra (or Math. 90) and 1 year of plane geometry (or Math. 51).

This course will provide students of varied mathematical backgrounds an opportunity to receive the necessary training required to continue in other mathematics and science courses. This course may NOT be used for credit in filling the mathematics, statistics, logic, etc. requirement for the baccalaureate degrees.

105. College Algebra. (3:4:0) F.S.Su. Prerequisite: Math. 101 or equivalent.
This course parallels part of Math. 111 at a slower pace for students whose mathematical preparation indicates the need for more time.

106. Trigonometry. (3:3:0) F.S.Su. Prerequisite: Math. 105.
This course parallels part of Math. 111 but proceeds at a slower pace for students whose mathematical preparation indicates the need for more time.

108. Mathematics for Business Administration. (3:4:0) F.S.Su. Prerequisite: Math. 101 or equivalent.
College algebra, set theory, analytic geometry and an introduction to calculus. For students in the College of Business.

111. College Algebra and Trigonometry. (5:5:0) F.S.Su. Two years of high school algebra and one year of plane geometry are the minimum prerequisites (or Math. 101).

112, 113. Analytic Geometry and Calculus. (5:5:0 ea.) F.S.Su. Prerequisite: Math. 111 or equivalent (2½ years high school algebra, 1 year high school geometry, ½ year high school trigonometry).
Plane analytic geometry, differential and integral calculus with application—an integrated course.

121, 122. Technical Mathematics. (3:3:0 ea.) F.S. Prerequisite: Math. 101 or equivalent.
College algebra, trigonometry, analytical geometry, and an introduction to calculus. Emphasis on problems and practical application. For students in the technical institute.

141, 142. Introduction to Calculus and Analysis. (4:4:0 ea.) F.S.Su. Prerequisites: two and one-half years high school algebra, one year high school geometry, one-half year high school trigonometry, or Math. 111 or equivalent.
Plane analytic geometry and one-dimensional calculus with applications. For majors in mathematics and others desiring a more rigorous treatment of calculus than in Math. 112, 113.

205. Structure of Mathematics. (3:3:0) F.S.
A look at the structure and meaning of mathematics. For honor students who do not plan courses of study which require mathematical proficiency.

243, 244. Intermediate Calculus and Analysis. (3:3:0 ea.) F.S.Su. (m) Prerequisite: Math. 142 or 113 or equivalent.
Solid analytic geometry and multi-dimensional calculus with applications. For majors in mathematics and others desiring a more rigorous treatment.

291, 292. Honors Seminar in Mathematics. (1:1:0 ea.) F.S.
A special seminar in the structure of mathematics. It is required of students in the University Honors Program who are majoring in mathematics and open to other interested students.

300. History of Mathematics. (3:3:0) F.Su. (m) Prerequisite: Math. 112, 141, or 205.
The development of mathematics with emphasis on the underlying principles and motivations.

301. Foundations of Algebra. (3:3:0) F.S.Su. Prerequisite: Math. 111 or equivalent.
Sets, logic, basic number systems; required of prospective secondary teachers.

302. Foundations of Geometry. (3:3:0) F.S.Su. Prerequisite: Math. 112 or 141.
A critical analysis of the logical structure and content of Euclidean geometry, and an introduction to non-Euclidean geometries; required of prospective secondary teachers.

305. Basic Concepts of Mathematics. (3:3:0) F.S.Su.
Designed to develop an understanding of the basic structure of mathematics. This course is required of all prospective elementary school teachers.

306. Concepts of Mathematics. (3:3:0) F.S. Prerequisite: Math. 305.
Study of modular arithmetic, real numbers, complex numbers, relations and functions, measurement, informal geometry. For elementary school teachers.

311. Mathematics of Digital Computers. (3:3:2) F.S. (m) Prerequisite: Math. 112 or 141.
Computer logic, flow diagram, coding techniques, solution of problems using a modern digital computer as a laboratory machine.

314. Vector Analysis. (3:3:0) (Offered on demand) (m) Prerequisite: Math. 113 or 244.
Vector algebra, vector differential operators, integral theorems, introduction to potential theory.

321. Applied Ordinary Differential Equations. (3:3:0) F.S.Su. Prerequisite: Math. 113.
An introduction to the theory of ordinary differential equations with applications, including Fourier series and integrals and the Laplace transformation (not open to mathematics majors).

322. Topics in Applied Mathematics. (3:3:0) F.S.Su. Prerequisite: Math. 113.
An introduction to the theory of analytic functions of a complex variable, and vector, matrix and numerical analysis (not open to mathematics majors).

323. Applied Partial Differential Equations. (3:3:0) F.S. Prerequisite: Math. 321.
An introduction to the theory of partial differential equations, Bessel functions, Legendre functions, special transforms, boundary value problems with applications (not open to mathematics majors).

332. Introduction to Complex Analysis. (3:3:0) F.S.Su. (m) Prerequisite: Math. 113 or 244.
Complex algebra, analytic functions, integration in the complex plane, infinite series, theory of residues, conformal mapping.

371. Introduction to Modern Algebra. (3:3:0) F.S.Su. (m) Prerequisite: Math. 113 or 142.
An introduction to modern algebra, including the study of groups, rings, and fields.

372. Introduction to Linear Algebra. (3:3:0) S. (m) Prerequisite: Math. 113 or 142.
An introduction to linear algebra, including the study of linear spaces, linear transformations, and matrices.

387. Theory of Numbers. (3:3:0) F. (m) Prerequisite: Math. 113 or 142.
Foundations of number theory, congruences, residues, reciprocity law, Diaphantine equations.

411. Numerical Analysis. (3:3:0) F. (m) Prerequisite: Math. 321 or 434.
Numerical methods for finding roots of equations, differences, summation of series, curve fitting, numerical integration and differentiation.

412. Numerical Analysis. (3:3:0) S. (m) Prerequisite: Math. 321 or 434.
Numerical methods for solving systems of linear equations, ordinary and partial differential equations, linear programming. Independent of Math. 411.

434. Introduction to Ordinary Differential Equations. (3:3:0) F.S.Su. (m) Prerequisite: Math. 244 or 321.
An introductory course in the theory of ordinary differential equations.

435. Intermediate Differential Equations. (3:3:0) S. (m) Prerequisite: Math. 434.
Intermediate theory of ordinary differential equations including solutions of special types of equations, existence theorems, series solutions, systems of differential equations.

436. Introduction to Partial Differential Equations. (3:3:0) F.S. (m) Prerequisite: Math. 434 or consent of instructor.
Methods for finding solutions to basic equations. Discussion of uniqueness, existence, and stability with respect to data.

451. Modern Geometry I. (3:3:0) F. (m) Prerequisite: Math. 372.
Synthetic and analytic projective geometry including relationships with affine and Euclidean geometry. Geometry considered as the study of invariants of groups of transformations.

452. Modern Geometry II. (3:3:0) S. Prerequisite: Math. 451.
A continuation of Math. 451 including a relationship to linear algebra, supplemental design and combinatorial mathematics.

495. Special Readings in Mathematics. (1-2:0:1-3) (Offered on demand) Prerequisite: consent of instructor.
Special directed reading in work beyond the scope of usual undergraduate courses. Topics to be selected to meet the need and interest of the student.

501, 502. Foundations of Mathematical Thought. (3:3:0 ea.) F.S.
Analysis of the axiomatic method, set theory, the axiom of choice, mathematics as an extension of logic paradoxes; intuitionism and formalism. For majors in mathematics education.

503. Mathematics for Secondary School Teachers. (3:3:0) (Offered on demand) Prerequisite: teaching experience or consent of instructor.
Emphasis given to the newer materials and trends in teaching mathematics in the secondary schools. For in-service teachers or mathematics education graduate students.

513A,B,C,D. Advanced Topics in Applied Mathematics. (3:3:0 ea.) (Offered on demand) (m) Prerequisite: consent of instructor.
Specialized topics selected from integral equations, Boolean algebra, information theory, group representations, calculus of variations, etc. varied from time to time.

541, 542. Advanced Calculus. (3:3:0 ea.) F.S. (m) Prerequisite: Math. 244 or 323.
Includes a rigorous treatment of continuity, differentiability and Riemann integration of functions of one and several real variables and a development of infinite series.

545A,B,C,D. Special Topics in Analysis. (3:3:0 ea.) (Offered on demand) Prerequisite: consent of instructor.

551, 552. Introduction to Topology. (3:3:0 ea.) F.S. (m) Prerequisite: Credit or concurrent registration in Math. 541.
An axiomatic treatment of linearly ordered spaces including properties of closed sets, connected sets, and separable sets, elementary plane topology, matrization, application to analysis.

555A,B,C,D. Special Topics in Topology. (3:3:0 ea.) (Offered on demand) Prerequisite: consent of instructor.

575A,B,C,D. Special Topics in Algebra. (3:3:0 ea.) (Offered on demand) Prerequisite: consent of instructor.

585. Matrix Analysis. (3:3:0) (Offered on demand) (m) Prerequisite: Math. 322 or 372.
An introduction to matrix analysis, including the study of characteristic values, canonical forms, and functions of matrices, with applications.

591, 592. Senior Seminar in Mathematics. (1:1:0 ea.) F.S.
A seminar for senior or graduate majors in mathematics.

617, 618. Mathematics Physics. (3:3:0 ea.) F.S. Prerequisite: Math. 436 or 323. Recommended: Math. 542.
Evaluation of integrals, integral transforms, vectors, special functions, partial differential equations, perturbation theory, integral equations, calculus of variations, tensor analysis.

631, 632. Complex Analysis. (3:3:0 ea.) (Offered 1966-67 and alternate years) Prerequisite: Math. 332. Recommended: Math. 542.

634, 635. Theory of Ordinary Differential Equations. (3:3:0 ea.) (Offered 1967-68 and alternate years) Prerequisite: Math. 435. Recommended: Math. 542.

641, 642. Functions of a Real Variable. (3:3:0 ea.) (Offered 1967-68 and alternate years) Prerequisite: Math. 542.

647, 648. Partial Differential Equations. (3:3:0 ea.) (Offered 1966-67 and alternate years) Prerequisite: Math 436. Recommended: Math. 542.
General solutions, existence, uniqueness and stability of standard equations, transforms, separable coordinate systems, special techniques, numerical solutions.

651, 652. General Topology I, II. (3:3:0 ea.) (Offered 1967-68 and alternate years) Prerequisite: consent of instructor.

671, 672. Modern Algebra. (3:3:0 ea.) (Offered 1967-68 and alternate years) Prerequisite: Math. 372.

681, 682. Linear Algebra. (3:3:0 ea.) (Offered 1966-67 and alternate years) Prerequisite: Math. 372.

695. Readings in Mathematics. (1-2:1-2:0) (Offered on demand)

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

Mechanical Engineering Science
(Including Aeronautical and Astronautical Engineering)

Professors: Simonsen, Ulrich.

Associate Professor: Cannon.

Assistant Professors: Wille (chairman, 273 ELB), Free, Heaton, West.

Instructor: Forsnes.

Supervisor of Laboratories: Andersen.

The Mechanical Engineering Science Department offers a professional program leading to the degree of Bachelor of Engineering Science and Master of Science. The curriculum leading to the B.E.S. Degree is fully accredited by the Engineers Council for Professional Development (ECPD). The courses in the professional curriculum are taught on a rigorous scientific level provided by the preprofessional emphasis on mathematics, physics, and chemistry. The student is also provided with a well-balanced program of social studies, religion, biological science, and humanities.

The graduate program in mechanical engineering science is listed along with the undergraduate program because of the great emphasis in recent years on graduate level preparation for the professional engineer. Brigham Young University joins educational and industrial leaders in promoting graduate work in mechanical engineering. Research and advanced study are provided at the forefront of many new and exciting areas.

The prescribed course work in mechanical engineering provides the fundamental engineering skills also taught under more specialized names such as aeronautical engineering, astronautical engineering, rocket engineering, and industrial engineering. The student chooses courses to specialize in the area of his interest.

Advanced classroom and laboratory course work is offered in the areas of heat transfer, fluid mechanics, thermodynamics, automatic control, kinematics, stress analysis, machine design, and materials science. These courses coupled with prescribed courses from other departments provide the necessary background for work in the newer, advanced fields such as control, propulsion and structure design of aircraft, rockets, space vehicles and water craft. Similarly, powerful, basic engineering techniques are developed to handle the more everyday needs of our modern society such as automated manufacturing, automobiles, home appliances, etc. In fact, training is provided for all areas where the fabrication of metals and plastics, flow of liquids and gases, burning of fuel, use of mechanisms, or transfer of heat are required.

The extensive background of the faculty combined with modern laboratories and precision scientific equipment will prove valuable to those who wish to undertake special projects in their undergraduate work or research topics in their graduate work. Qualified students in the professional school gain experience by assisting graduate students and faculty on industrial research projects under way in the department. Seminar work and participation in technical meetings sponsored by student organizations provide a rich background for a career in mechanical engineering.

Entrance Requirements

All students are required to meet the entrance requirements of the University as outlined elsewhere in this catalog. A well-qualified student with proper high school preparation can complete the Bachelor of Engineering Science (B.E.S.) program in four calendar years or the Master of Science (M.S.)

program in five calendar years. However, the degree is awarded for a competence level rather than for the number of years of attendance. Therefore, beginning students with inadequate high school preparation will require additional time to complete the degree requirements. See the section, "College of Physical and Engineering Sciences" for further detail.

Grade Requirements

To receive the B.E.S. degree in mechanical engineering science, a student must complete courses satisfying general education and departmental requirements with a cumulative grade-point average of 2.0 (C) minimum.

A maximum of 9 hours of "D" is allowed in fulfilling departmental requirements.

Periodically, the progress and level of achievement of each student will be reviewed to establish his ability to continue in the mechanical engineering science program. In particular, a student will be reviewed upon completion of Chem. 105, 106, Physics 211, 212, 213, 214 and Math. 112, 113 for which a "C" average minimum is required.

Sequence of Courses

Upon registration, or when otherwise requested, each student will be supplied with a suggested sequence of courses based upon his prior preparation. Adjustments will be made as necessary during his program in consultation with his adviser.

Programs for transfer students will be developed to match their previous course work and experience.

Engineering students may register for up to 18 hours exclusive of physical education and forum and devotional assemblies in any one semester without obtaining special permission.

Students pursuing the AFROTC program should contact the department of Aerospace Studies to make provision for the additional courses required by this program.

General Education Group Requirements

Engineering science students are subject to all of the general education requirements except that the biological science requirement is reduced to four semester hours instead of the six semester hours specified. The total hours of credit for which a student will actually enroll will depend upon his high school background but will likely range from 37 to 44 semester hours. See the Student Academic Services Section for details.

Bachelor of Engineering Science Departmental Requirements

	Hours
Chem. 105, 106	8
Physics 211, 212, 213, 214	10
Math. 112, 113, 321, 322, 323	19
Stat. 321	2
C.E. 102, 201, 303, 304, 305, 571	16
E.E. 300, 301, 302, 303, 304, 305	8
Engl. 316	2
Ch.E. 378	3
M.E. 100, 321, 322, 351, 363, 364, 412, 413, 431, 435, 441, 454, 465, 466, 571, 572, and 9 hours of restricted electives to be selected from 400 and 500 level courses (or from other departments as approved by petition)	47
Total Departmental Requirement	115

Master of Science Requirements

Major technical electives	15 hours
Thesis	6 hours
Minor (including at least 6 hours of mathematics)	9 hours
Total	30 hours

Undergraduate students electing the Master of Science program may commence earning graduate credit during the last year of undergraduate work. Students enrolling in graduate work during the last year of undergraduate work will be excused from M.E. 572 as a B.E.S. requirement. Both the B.E.S. and M.S. degrees will be granted as the specific requirements are fulfilled.

A student must formally apply for admission to the Graduate School to pursue the Master of Science degree. The graduate catalog contains details of Graduate School requirements.

Courses

100. Introduction to Mechanical Engineering. (1:1:0) F.
Presentation of the scope, level and philosophy of mechanical engineering. Use of design projects and slide rule techniques.

301, 302. Elements of Thermodynamics, Fluid Mechanics and Heat Transfer. (3:3:0 ea.) 301 F., 302 S. Prerequisites: Math. 321, Physics 213, C.E. 302 or 304.
First and second laws of thermodynamics; fluid statics and fluid flow (compressible and incompressible) heat conduction, convection and radiation. For nonmechanical engineering majors.

321, 322. Thermodynamics. (3:3:0 ea.) 321 F.S., 322 F. Prerequisite: Physics 213.
A fundamental course in thermodynamics and applications for majors in mechanical engineering science.

351. Principles of Applied Metallurgy. (3:3:0) F.
Prerequisite: Ch.E. 378.
Control of physical properties by strain, solution and precipitation hardening, recrystallization and multiphase alloying. Emphasis on quantitative properties predictions based upon microstructures.

363. Mechanical Engineering Instrumentation. (2:1:3) F.S. Prerequisite: concurrent registration in M.E. 321.
An introduction to measurements including temperature, pressure, stress, time, power, etc. Also, includes experimental work assigned in M.E. 321.

364. Mechanical Engineering Laboratory II. (1:0:3) S. Prerequisites: M.E. 361, completion of or concurrent registration in M.E. 322, and M.E. 351 or consent of instructor.
Experimental exercises to demonstrate principles of M.E. To reinforce classroom theory and demonstrate applications the student performs and designs laboratory experiments assigned in M.E. 322 and 351.

412. Fluid Mechanics I. (3:3:0) F. Prerequisites: Math. 321; C.E. 304; M.E. 301 or 321.
Physical properties of fluids; fluid statics, viscous flow; dimensional analysis; incompressible flow; compressible flow; fluid meters; lift and drag; dynamic similarity; momentum; potential theory; fluid machinery.

413. Fluid Mechanics II. (3:3:0) S. Prerequisites: Math. 322 or 323; M.E. 412.
Compressible flow; shock effects; Fanno and Rayleigh lines; generalized one-dimensional flow.

422. Statistical Thermodynamics.* (2:2:0) Arr. Prerequisites: M.E. 321; Stat. 321.
Methods of statistical inference, Jaynes formalism, statistical treatment of perfect gases, discussion of temperature, heat, work, friction, and thermal properties.

431. Kinematics. (3:2:3) F. Prerequisite: C.E. 304.
Relative motion of links in mechanisms; velocities and accelerations of machine parts; rolling contact; cams; gearing; synthesis of mechanisms.

435. Mechanical Vibrations. (3:3:0) F. Prerequisites: Math. 321, 322; C.E. 304.
Fundamentals of simple vibrating systems with applications.

441. **Heat Transfer.** (3:3:0) S. Prerequisites: M.E. 322, 412; Math. 322 or 323.
Fundamental principles of heat transfer by conduction, convection, and radiation.

454. **Analysis and Manufacture of Machine Components.** (3:2:3) S. Prerequisites: C.E. 303, C.E. 304 or 302.
Theory, design and manufacture of machine components for mechanical energy transmission, control, storage and dissipation; also, bearings, fasteners, etc. Replaces old M.E. 432.

465. **Mechanical Engineering Laboratory III.** (1:0:3) F. Prerequisites: current registration in M.E. 441, 412, 431 or consent of instructor.
Same as M.E. 364 except experiments are assigned in prerequisite courses.

466. **Mechanical Engineering Laboratory IV.** (1:0:3) S. Prerequisites: current registration in M.E. 413, 435, or consent of instructor.
Same as M.E. 364 except prerequisite experiments are assigned in prerequisite courses.

472. **Heating, Ventilating, and Air Conditioning.*** (2:2:0) Arr. Prerequisite: M.E. 322.
Heating and cooling for comfort. Design of warm air, hot water, and steam heating systems for residence and commercial buildings.

☐**C.E. 501. Advanced Mechanics of Materials I.*** (3:3:0) (interdepartmental) Arr. Prerequisite: C.E. 303.

☐**C.E. 502. Advanced Properties of Materials I.*** (3:3:0) (interdepartmental) Prerequisite: C.E. 305 or equivalent.

511. **Intermediate Gas Dynamics.*** (3:3:0) Arr. Prerequisite: M.E. 413.
Potential theory, small perturbations, method of characteristics, and other related topics.

512. **Boundary Layer Theory.*** (3:3:0) Arr. Prerequisite: M.E. 413.
An introduction to the basic theories of the boundary layer, Navier-Stokes equations, Prandtl's equation, etc.

521. **Advanced Thermodynamics.*** (3:3:0) Arr. Prerequisite: M.E. 322.
Extended treatment of the fundamentals of thermodynamics including transient conditions and current topics.

522. **Combustion.*** (3:3:0) Arr. Prerequisite: M.E. 322.
Mass balance and chemical structure; chemical equilibrium and kinetics as applied to combustion; burning models, solid, liquid and gaseous. Deflagration and detonation type burning; properties of fuels and combustion hardware.

531. **Principles of Automatic Control.*** (3:3:0) Arr. Prerequisites: M.E. 412; E.E. 304; Math. 322 or 323.
Transfer functions applied to mechanical, hydraulic, pneumatic, and electrical components and their combination. Block diagrams, Nyquist and Routh criteria. Bode's and root locus plots, integral and error rate compensation. Nonlinear systems.

533. **Stress Analysis of Aerospace Structures.*** (3:3:0) Arr. Prerequisite: C.E. 501 or consent of instructor.
Particular emphasis is given to analysis of aircraft and missile type structures; buckling of columns and compression panels; shear and tension field panels; curved beams and rings; semimonocoque structures.

535 **Advanced Vibration Analysis.*** (3:3:0) Arr. Prerequisite: M.E. 435.
Vibration characteristics of systems with multiple degrees of freedom; vibrational modes of elastic bodies; random vibrations; simple nonlinear systems.

537. **Advanced Kinematics.*** (3:3:0) Arr. Prerequisite: M.E. 431.
Geometry of constrained motion, with application to point paths; kinematic synthesis; types of mechanisms.

541. Advanced Heat Transmission.* (3:3:0) Arr. Prerequisite: M.E. 441.
Extension of M.E. 441 to include numerical and approximate methods of solution, transient problems, and solution of problems by analogy methods.

552. Mechanical Engineering Materials.* (3:3:0) Arr. Prerequisite: C.E. 502 or consent of instructor.
Content to be of an applied nature; applied metallurgy, design for fatigue, stress concentration in machine members, residual stress, and current topics.

554. Advanced Manufacturing Processes.* (3:3:0) Arr. Prerequisite: M.E. 351.
Basic analysis of forming, machining, welding, and casting processes with emphasis on microstructures. Selection of process parameters with consideration of economics and material properties.

571. Mechanical Design I. (2:1:3) F.S. Prerequisites: M.E. 432, 435, 413, 441.
Application of mechanical engineering theory to specific design problems. Emphasis on group projects. Philosophy of design.

572. Mechanical Design II. (3:1:6) F.S. Prerequisite: M.E. 571.
Continuation of M.E. 571 with presentation of design projects. Preparation of design drawings.

581. Internal Combustion Engines.* (3:2:3) Arr. Prerequisite: M.E. 422.
Basic principles; theoretical and actual cycles; performance characteristics with experimental laboratory analysis.

583. Principles of Turbomachinery.* (2:2:0) Arr. Prerequisite: M.E. 412.
Analysis and design of all types of turbomachinery.

585. Jet Propulsion Power Plants.* (3:3:0) Arr. Prerequisites: M.E. 413, 412.
Analysis of jet propulsion power plants including performance, economics. and matching components.

591, 592. Seminar.* (1:1:0 ea.) F.S. Prerequisite: senior standing.
Student and faculty presentation of topics of special and current interest.

595, 596. Special Problems.* (Arr.) Arr. Prerequisite: consent of department chairman.

597. Undergraduate Research.* (Arr.) Arr. Prerequisite: consent of department chairman.

611. Theories of Fluid Turbulence.** (3:3:0) Arr. Prerequisite: M.E. 412 or consent of instructor.

612. Theoretical Hydrodynamics.** (3:3:0) Arr. Prerequisites: M.E. 413; Math. 322.

621, 622. Thermodynamics Theory I, II.* ** (3:Arr.:Arr. ea.) Arr.

631. Mechanical Control Systems.** (3:3:0) Arr. Prerequisite: M.E. 531.

635. Advanced Vibration Analysis II.** (3:Arr.:Arr.) Prerequisite: M.E. 535.

637. Advanced Dynamics of Mechanical Elements.** (3:3:0) Arr. Prerequisites: Math. 322, 323; M.E. 435.

641, 642. Heat Transfer Theory I, II.** (3:3:0 ea.) Arr. Prerequisite: M.E. 441.

661, 662. Elasticity in Engineering.** (3:Arr.:Arr. ea.) Arr.

697. Research.** (Arr.) Arr.

699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) Arr.

*Electives offered upon approval of department chairman. Frequency based on demand.

**Graduate courses offered on demand only. Their full description can be found in the graduate catalog.

Music

Professors:	Goodman (chairman, C-550A HFAC), Davis, Earl, Halliday, Sardoni.
Associate Professors:	Cannon, H. Laycock, R. Laycock, Nordgren, Williams, Woodward.
Assistant Professors:	Ballou, Belnap, Bradshaw, Curtis, Gibbons, Keeler, Stubbs, Terry, Wakefield, Weinzinger.
Instructors:	Dalton, Groesbeck, Mason, McMurdie, Pollei.

The Music Department offers courses to students desiring professional preparation in music theory, music education, and applied music; to students desiring a minor in music; and to students who seek a general cultural background in music.

Music Majors

1. **Degrees Offered.** A baccalaureate degree in music can be taken with a major in applied music, music theory, or music education (secondary). The curriculum for a major in applied music or music theory leads to the Bachelor of Arts degree. The curriculum for music education leads to a Bachelor of Music degree or a Bachelor of Arts degree.

2. **Prerequisites.** The Music Department presupposes that a student who wishes to major in music will have had previous training in music before entering the University. In order to determine the degree of attainment in basic musical skills, each entering freshman and transfer student who desires to major in music will be given the Music Department entrance test which is given each semester during the orientation period and which is otherwise available, to be taken by music major candidates through the University Testing Service.

3. **Recital Attendance.** The Music Department presents annually over 140 recitals, concerts, and performances. These offerings are augmented by the University lyceum series of recitals and concerts by world-renowned artists and major musical performing groups. A music major is required to attend at least sixteen of these musical events per semester in residence. He is responsible to record his attendance at performances, using forms provided by the Music Department. At the end of each semester he returns the forms to the Music Department office, C-550 HFAC, where they are placed in his files.

4. **Piano Proficiency.** All music majors are required to take a preliminary examination in piano. This examination is provided during orientation and registration. Proficiency at the level of simple piano accompaniments is required. Those not meeting this proficiency standard must make up the deficiency in either private or group piano study.

5. **Proficiency Examinations on Major Instruments or Voice.** The proficiency examinations for each music major are given every spring during the first week in May. Students perform representative works studied during the year. The student submits as a part of the examination a repertoire list indicating which pieces are to be performed for the examination. Forms outlining minimum proficiency requirements for each instrument and each major are available at the Music Department office. A proficiency examination is taken by all first- and

second-year students at the end of the second year. Music education and applied majors also take an examination at the end of the third year. Applied majors have a senior recital in place of an examination in the fourth year.

6. **Curriculum for Music Majors.** Inasmuch as the first year program is identical for all majors, the area of specialization within the Music Department is not chosen until the beginning of the sophomore year. Admissions to the various specialized programs will be based upon the following points:

Inasmuch as the first year program is identical for all majors, the area of specialization within the Music Department is not chosen until the beginning of the sophomore year. Admission to the various specialized programs will be based upon the following points:

a. **Applied Majors:** Strong achievement in applied music as evidenced in the proficiency examination given at the close of the first year of study.

b. **Music Theory Majors:** Strong achievement in Music 191-2 and 193-4 and generally good scholastic achievement in other courses.

c. **Music Education:** Good balanced achievement in all course work and substantial progress in applied music as evidenced in the proficiency examination given at the close of the first year of study.

The first year course work for all music majors includes:

Course	F	S	Course	F	S
Engl.	3	3	Mus. 103	2	
P.E.	½	½	Mus. 107, 108 (if needed)	(2)	(2)
Dev. assy.	½	½	Mus. 160p	2	2
Undergrad. Relig. 121, 122	2	2	Ensemble (band, orchestra, chorus, etc.)	1	1
Health 130		2	Mus. 165 (for voice specialty)	(1)	
Mus. 191, 192	2	2			
Mus. 193, 194	2	2			

Music Minors

Those who wish to minor in music are required to take Mus. 103, 191, 193, 2 hours of ensemble, and 6 hours of electives in music.

Elementary Music Education Minors

Prospective elementary school teachers who desire a minor in music are required to take Mus. 101, 191, 193, 201, 4 hours of ensemble (band, orchestra, or chorus), and 5 hours of class and/or private piano and voice.

Degree in Applied Music

To receive a Bachelor of Arts degree with a major in applied music, a student completes the first year courses suggested above and the following courses during the remaining three years:

	Hours		Hours
Mus. 291, 292	8	Ensembles	6
Mus. 202	2	Mus. 160p	4
Mus. 484, 485	6	Mus. 360p	8
Mus. 491	3		

(Keyboard majors substitute Mus. 262, 263, 391, and 463 for part of the ensemble requirement. Other majors are encouraged to vary their ensemble experience.)

Majors in the various fields of applied music are required to take certain special classes in addition to the above requirements.

Piano majors take Mus. 565
Organ majors take Mus. 167, 468, 569
Woodwinds majors take Mus. 368
Brass majors take Mus. 370
String majors take Mus. 372
Voice majors take Mus. 566, 567, 568

At the end of each semester the applied major auditions before a panel made up of faculty members from his major instrument (or voice) field. The audition at the end of the sophomore year determines his eligibility for advanced applied instruction (Mus. 360p). The audition at the end of the junior year determines his readiness for the preparation of the required senior recital. The senior recital is normally presented during the Spring Semester of the senior year and replaces the audition for that semester.

The following sequence of courses is recommended for majors in applied music:

Sophomore Year

	F	S
Undergrad. relig.	2	2
Lang. (1st or 2nd year)	4	4
Mus. 202		2
Mus. 291, 292	4	4
Mus. 160p	2	2
Ensemble	1	1
P.E.	½	½
Dev. assy.	½	½
Electives	2	
Total Hours	16	16

Junior Year

	F	S
Undergrad. relig.	2	2
Lang. (2nd year)	4	4
Mus. 484, 485	3	3
Ensemble	1	1
Mus. 360p	2	2
Electives (must include the special music classes)	1	1-2
Dev. assy.	½	½
Gen. ed.	2	
Electives		2
Total Hours	15½	15½-16½

Senior Year

	F	S
Mus. 491		3
Ensemble	1	1
Mus. 360p	2	2
Electives (must include the special music classes)	1-2	1-2
Gen. ed.	11-12	6
Electives		1-2
Total Hours	15-17	14-16

Degree in Music Theory

For a Bachelor of Arts degree with a major in music theory, a student is required to complete the following music courses or their equivalents:

	Hours
Mus. 191, 192, 193, 194, 291, 292, 391, 491, 471, 472	28
Mus. 202	2
Mus. 103, 484, 485	8
Mus. 160p or 360p (functional piano, pass sophomore proficiency standards)	4
Mus. 481 or 587	3
Ensemble	4
Individual instruction on specialty	4
Mus. 149 or 349 (Collegium Musicum)	4

The hours to be taken in individual or group instruction may be reduced if a student, as determined by entrance examinations, has already had considerable training in these areas. At the end of each year of individual instruction the student takes an examination on his major instrument or in voice to determine his level of achievement. For the examination, each candidate submits a list of his repertoire indicating compositions or studies especially prepared for the examination. Forms on which a record of the student's repertoire is kept and outlines of instrumental and vocal proficiency requirements are available at the Music Department office.

Majors in music theory participate in musical ensembles a minimum of four semesters of undergraduate training. The student performs in at least two ensembles. A student whose specialty is a band or orchestral instrument takes twc hours of instrumental ensemble and two hours of choral ensemble. A student whose specialty is voice sings in at least two vocal ensembles.

The ability to play the piano is an indispensable tool of music theory majors; consequently, every major in music theory must pass a piano proficiency examination (second year standards) during the first semester of residence or take group or individual piano instruction until he passes the examination.

The following sequence of courses is recommended for majors in music theory:

Sophomore Year

	F	S
Undergrad. relig.	2	2
Dev. assy.	½	½
P.E.	½	½
Hist. 170		3
Mus. 291, 292	4	4
Mus. 149	1	
Mus. 160p—piano	2	2
Music 160p—specialty	2	
Lang.	4	4
Total Hours	16	16

Junior Year

	F	S
Undergrad. relig.	2	2
Dev. assy.	½	½
Hum. (literature—upper division)	2	
Soc. sci. (Psych. 111)		3
Mus. 391, 491	3	3
Mus. 349	1	
Mus. 484, 485	3	3
Ensemble	1	1
Lang.	4	4
Total Hours	16½	16½

Senior Year

	F	S
Dev. assy.	½	½
Phys. sci. (2 depts.)	3	3
Biol. sci. (2 depts.)	3	3
Soc. sci. (dept. other than psychology)		3
Mus. 471, 472	3	3
Mus. 481 or 587	3	
Mus. 349	1	1
Electives (upper division)	3	3
Total Hours	16½	16½

Degree in Music Education

To receive a Bachelor of Music degree with a composite music education major, a student is required to complete the following music courses or their equivalents:

Composite Music Major

	Hours
Mus. 191, 192, 193, 194, 291, 292, 471 or 472, 481	22
Mus. 363*, 364* 367, 368, 370, 373	9
Mus. 202, 237, 374, 375, 378	10
Mus. 103, 484, 485	8
Ensemble	6
Private instruction on specialty	12
Mus. 165 (voice specialty)	(1)
Total Hours	67

*For students with instrumental specialties only. Those students taking voice as a specialty should take Mus. 566 and 567.

(This degree requires additional professional education courses to meet teaching certification requirements. For details see the Teacher Education section of this catalog.)

Band instrumentalists who pursue one of the music education degrees participate at least one first semester in marching band and one second semester in varsity band, preferably on a minor instrument. Voice majors must sing in at least two types of choral ensembles, and string majors must perform at least four semesters with the orchestra.

For the baccalaureate degree with a composite major in music education the student pursues the following sequence of courses:

Sophomore Year

	F	S
Mus. 291, 292	4	4
Mus. 202		2
Mus. 363, 364	1	1
Mus. 160p or 360p	2	2
Ensemble	1	1
Mus. 368	2	
Mus. 370		2
Mus. 237		2
Dev. assy.	½	½
Undergrad. relig.	2	
Hist. 170	3	
Lit. (humanities)		3
P.E.	½	½
Tchr. Ed. 301	2	
Total Hours	18	18

Junior Year

	F	S
Mus. 471 or 472		3
Mus. 484	3	
Mus. 160p or 360p	2	2
Ensemble	1	1
Mus. 372	2	
Mus. 367		1
Mus. 375		2
Dev. assy.	½	½
Undergrad. relig.	2	2
Phys. sci., biol. sci.	3	3
Mus. 374	2	
Mus. 377		3
Health	2	
Total Hours	17½	17½

Senior Year

	F	S
Mus. 481		3
Mus. 485		3
Mus. 378		2
Undergrad. relig.		2
Soc. sci. (psychology)		3
Aesthetics (3rd field hum.)		2
Mus. 479	8	
Tchr. Ed. 310	2	
Tchr. Ed. 403	4	
Tchr. Ed. 415	2	
Total Hours	16	15

Students electing a Bachelor of Arts degree with a composite music education major should take the above outline plus 12 hours of foreign language, 3 hours of physical science, 3 hours of biological science, and 2 hours of social science.

Every music education major must pass a functional piano proficiency examination before being permitted to student teach.

Music education majors also take an annual proficiency examination covering the materials studied in the student's private lessons on his major instrument or voice. The sophomore proficiency standards must be passed before a student is allowed to continue into advanced study (Mus. 360p). A minimum of one year of advanced study is required before graduation. The final proficiency examination is taken at the end of the year of advanced study at which time the student will have completed all applied music requirements for his degree.

Every music education major must have appeared a minimum of 30 minutes in solo and chamber music recital.

DEPARTMENT OF MUSIC

The main objectives of the Department of Music are to help each student attain through music the skills and proficiencies of an artist while he is gaining a broad general education; to develop talent to the highest degree possible; to train music teachers for a noble profession; and through association with distinguished artists and teachers, to help all B.Y.U. students acquire discriminating taste and sound critical judgment.

The Bachelor of Arts degree is available with majors in music theory, applied music and music education. The Bachelor of Music degree is available with a major in music education. The master's and doctor's degrees may be taken in musicology, music theory, and music education. The Master of Music degree is available in piano, organ, and voice.

Students who desire to become composers, arrangers, or music copyists, or who wish to teach theory of music should pursue a major in music theory.

Every music major studies a certain amount of applied music in order to develop proficiency on his major instrument or in voice. Students who wish to become skilled performers in order to qualify themselves to assume positions in the concert or professional world should major in applied music.

The music education program provides for professional preparation for prospective teachers of music in the public schools, junior colleges, and music education in higher education. This would include the classroom teacher of general music, music theory, music history, class piano; elementary classroom music teachers; consultant resource and specialist for elementary teachers; supervisor; director of music, conductors of band, orchestra and choir. Other areas of professional placement that music education courses contribute to are music therapy, music industry, and private lessons. The master's degree program in elementary or secondary school music is designed to prepare teachers, supervisors, and music consultants who can help classroom instructors teach music effectively.

A cultural atmosphere seldom equalled is provided through concerts and recitals, including visiting groups and artists. The Department of Music sponsors more than 150 concerts and recitals each year, not including the lyceum service provided by studentbody activities and by lyceum committees.

There is a musical organization for every student at B.Y.U. who is interested in singing or in playing a musical instrument.

Courses

101. Introduction to Music. (3:3:0) F.S.Su. (G-HA) Cannon, Dalton, Earl, Wakefield

Introduction to the fundamental concepts of melody, rhythm, harmony, form, styles, etc. as a basis for understanding and enjoying the masterpieces of the various musical eras. Open to all students without previous training in music.

102. Music Fundamentals and Skills for Elementary Education Teachers. (2:2:1) F.S.Su. Davis, Gibbons, Groesbeck, Terry

Practical experiences in fundamentals and skills of music. Instruction in techniques of playing simple melody and harmony instruments and writing music symbols. Required of elementary education majors.

103. Survey of Music Literature. (2:2:0) F.S.Su. (G-HA m) Prerequisite: for nonmusic majors Mus. 101 or equivalent. Cannon, Dalton, Stubbs, Wakefield

An intensive study of the history of music including styles, forms, and mediums from the Middle Ages to the present. Required of all music majors during the first year of study.

105. Class Piano for Beginners in Music. (2:2:0) F.S.Su. McMurdie

Minimum of one-hour daily practice required outside of the class. Instruction in notation of music and in keyboard technique, especially designed for prospective elementary school teachers.

106. Group Organ Instruction. (2:2:0) F.Su. Prerequisite: moderately advanced proficiency at the piano. Special fee. Keeler

Elements of organ manual and pedal technique, elementary repertoire, application to church service.

107, 108. Group Piano Instruction. (2:2:0 ea.) F.S. Keeler, McMurdie, Wakefield

Designed for those music majors and minors who cannot pass the piano proficiency examination. Not open to piano majors.

110. University Chorale. (1:0:5) F.S.Su. Weinzinger

116. Male Chorus. (1:0:5) F.S. Prerequisite: consent of director. Woodward

119. Women's Chorus. (1:0:5) F.S. Prerequisite: consent of director. McMurdie

125. A Cappella Choir. (1:0:5) F.S. Prerequisite: consent of director. Woodward

128. Opera Workshop. (1:0:5) F.S.Su. Prerequisite: consent of director. Curtis.

129. **Opera Workshop Soloists.** (1:0:5-10) F.S.Su. Prerequisite: consent of director. Curtis

A class which provides opportunity for singers to become acquainted with opera literature through the performance of opera excerpts and, in conjunction with opera workshop chorus, produce complete operas on stage.

131. **Oratorio Choir.** (1:0:5) F.S. Prerequisite: consent of director. Halliday

134. **Basic Choral Training.** (1:0:2) F. Prerequisite: admission by audition.

The development of basic skills in choral singing and a knowledge of music fundamentals preparatory to membership in select choral groups.

135. **Varsity and Marching Band.** (1:0:5) F.S. Prerequisite: consent of director. Ballou

138. **Concert Band.** (1:0:5) F.S.Su. Prerequisite: consent of director. R. Laycock

144. **Theater Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.

147. **Symphony Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director. Gates

148. **Chamber Orchestra.** (1:0:4) Prerequisite: consent of director. R. Laycock

Repertoire for small orchestra, chosen from all periods, will be explored and/or prepared for performance.

149. **Collegium Musicum.** (1:0:3) F.S. R. Laycock

Designed for advanced instrumentalists and vocalists (nonmusic majors as well as music majors) for credit or audit. Reading of music literature and study of performance practices, medieval to contemporary. Some reading performances for music classes and recital series.

150. **Chamber Music: Brass, Piano, Ancient Instrument, String, Vocal or Woodwind Ensemble.** (1:0:3) F.S.Su.

159p. **Beginning Applied Instruction.** (2:1:0) F.S.Su.

Fifteen, one-half hour lessons per semester. One to two hours of practice per day required. Special fee.

Brass—Trumpet, Cornet, French Horn, Trombone, Baritone, Tuba: Ballou, R. Laycock
Harpsichord:. Wakefield
Organ: Belnap, Keeler
Percussion: R. Laycock
Piano: Bradshaw, Cannon, Keeler, Kliass, McMurdie, Pollei Smith, Wakefield
Recorder: Wakefield
Strings—Violin, Viola, Cello, String Bass: Dalton, Goodman, H. Laycock, Nordgren, Sardoni
Voice: Curtis, Earl, Halliday, Terry, Weinzinger, M. Woodward, R. Woodward
Woodwinds—Flute, Oboe, Clarinet, Bassoon, Saxophone: Bos, R. Laycock, Stubbs, Williams

160p. **Intermediate Applied Instruction.** (2:1:0) F.S.Su. Prerequisite: admission by audition.

Fifteen, one-half hour lessons per semester. One to two hours of practice per day required. Special fee. (For instructors see Mus. 159p.)

163. **History and Development of the Piano.** (3:3:0) F. (Offered 1966-67 and alternate years) Prerequisite: consent of instructor. Hansen

The musical and technical development of the piano and its ancestral instruments in their social context through the present day.

164. **Piano Tuning Theory.** (2:2:0) S. Prerequisites: Mus. 163, consent of instructor and special auditory test. Hansen

Theory of piano keyboard temperaments. Includes Pythagorean, Equal, Aron's (Just) and Marpurg's (Meantone) and Tool use.

165, 166. Diction for Singers. (1:1:1 ea.) F.S.Su. Prerequisite: should be taken concurrently with private or group voice study. 165 a prerequisite for 166. Halliday

First semester: a study of English, Italian and Latin diction as related to singing. Second semester: a study of German and French diction as related to singing.

167. Organ Problems. (2:2:0) F.Su. Keeler

Registration, accompaniment playing, and related problems.

170. Group Vocal Instruction. (1:2:0) F.S.Su. Weinzinger, Woodward

Class instruction for beginners in vocal production.

175. Piano Tuning Laboratory. (3:1:7) S. Prerequisites: Mus. 163 and concurrent registration in 164. Hansen

At least seven supervised hours of weekly piano tuning experience. A minimum of four pianos per week will be tuned by each student.

191, 192. First Year Theory. (2:2:1 ea.) F.S. (m) Prerequisites: reading ability in music and one years of piano study or concurrent registration in Mus. 107, 108.

Tonal harmony, part-writing, modulation, analysis, simple forms, keyboard. Must be taken with 193 and 194 respectively unless required proficiency in music skills is demonstrated.

193, 194. First Year Music Skills. (2:0:4 ea.) F.S. (m) Prerequisites: reading ability in music and one year of piano study or concurrent registration in Mus. 107, 108.

Ear training, diction, sight singing. Two 2-hour periods per week. Must be taken with 191 and 192 respectively unless proficiency in part-writing is demonstrated.

201. Baton Technique and Hymnody. (2:2:0) F.S.Su. Earl

Introduction to the fundamental concepts and skills of baton technique and congregational hymn singing and conducting. Open to all students.

202. Essentials in Conducting. (2:2:0) F.S.Su. Earl

The fundamental course for the development of complete body skills and coordinations necessary for the conductor. Required of all music majors.

237. Music and Materials for Elementary Children. (2:2:1) F.S.Su. Prerequisite: Mus. 102. Davis, Gibbons, Groesbeck, Terry

Materials, methods, and problems pertaining to the teacher of music to elementary children. Required of all elementary education and music education majors.

262, 263. Piano Accompaniment. (1:1:2 ea.) F.Su.

Study and practical application of the basic aspects of accompanying.

264. Piano Technology. (2:2:0) F. Prerequisites: Mus. 164, 175. Hansen

This class relates every part of the piano to the whole and teaches mechanical regulation of action, pedal traps, care and general maintenance.

275. Piano Tuning and Technical Laboratory. (3:1:7) F. Prerequisites: Mus. 164, 175. Hansen

More advanced tuning and mechanical mastery of piano regulating. Requires a minimum of four pianos weekly (7 hours) regulated or tuned.

276. Fine Tuning and Regulating Laboratory. (4:1:9) S. Prerequisites: Mus. 264, 275. Hansen

Fine tuning and regulating of both uprights and grands. Prepares student for passing Piano Technician's Guild Examinations.

291, 292. Second Year Theory. (4:4:3 ea.) F.S. Prerequisites: Mus. 192, 194.

Diatonic and chromatic harmony, modulation, ear training, dictation, sight singing, keyboard, chorale harmonization, form and analysis, elementary composition. Three-hour ear-training lab per week.

294. **Theory Review.** (2:0:5) Su. Prerequisite: Mus. 292 or equivalent.
Designed to help transfer and graduate students regain the necessary understanding and skills needed to do advanced work in music.

310. **University Chorale.** (1:0:5) F.S.Su. Weinzinger

316. **Male Chorus.** (1:0:5) F.S. Prerequisite: consent of director. Woodward

319. **Women's Chorus.** (1:0:5) F.S. Prerequisite: consent of director. McMurdie

325. **A Cappella Choir.** (1:0:5) F.S. Prerequisite: consent of director. Woodward

328. **Opera Workshop.** (1:0:5) F.S.Su. Prerequisite: consent of director. Curtis

329. **Opera Workshop Soloists.** (1:0:5-10) F.S.Su. Prerequisite: consent of director. Curtis

331. **Oratorio Choir.** (1:0:5) F.S. Prerequisite: consent of director. Halliday

335. **Varsity and Marching Band.** (1:0:5) F.S. Prerequisite: consent of director. Ballou

338. **Concert Band.** (1:0:5) F.S.Su. Prerequisite: consent of director. R. Laycock

344. **Theatre Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.

347. **Symphony Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.

348. **Chamber Orchestra.** (1:0:4) F.S.Su. Prerequisite: consent of director. R. Laycock

349. **Collegium Musicum.** (1:0:3) F.S. Woodward
Designed for advanced instrumentalists and vocalists (nonmusic majors as well as music majors) for credit or audit. Reading of music literature and study of performance practices, medieval to contemporary. Some reading performances for music classes and recital series.

350. **Chamber Music: Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3) F.S.Su.

360p. **Advanced Major Instrumental Applied Instruction.** (2:1:0) F.S.Su. Prerequisite: pass sophomore proficiency standards.
Fifteen, one-half hour lessons per semester. One to two hours of practice required per day. Special fee. (For instructors see Mus. 159p.)

363, 364. **Vocal Workshop.** (1:0:2 ea.) F.S. Curtis, Weinzinger, Woodward
Voice building, problems of solo and group singing, and survey of solo and small ensemble literature. Designed for music education majors with instrumental specialties only. Those students taking voice as specialty should not enroll in this class.

367. **Percussion Workshop.** (1:0:3) F.S. Prerequisite: Mus. 192 or equivalent.
Designed to help music education majors learn to play and to teach percussion instruments. Survey of materials.

368. **Woodwind Workshop.** (2:0:5) F.S. Prerequisite: Mus. 192 or equivalent. R. Laycock, Stubbs
Designed to help music education majors learn to play and to teach woodwind instruments. Survey of materials.

370. **Brass Workshop.** (2:0:5) F.S. Prerequisite: Music 192 or equivalent. Ballou, Mason
Designed to help music education majors learn to play and to teach brass instruments. Survey of materials.

372. **String Workshop.** (2:0:5) F.S. Prerequisite: Mus. 192 or equivalent. Dalton, Sardoni
Designed to help music education majors learn to play and to teach string instruments. Survey of materials.

374. **Choral Practicum.** (2:0:5) F.S.Su. Prerequisites: Mus. 202, 292, 364, or equivalent. Earl, Woodward

Designed for music education majors. Experience in choral conducting and singing of typical school materials. Observation and application of rehearsal techniques.

375. **Instrumental Practicum.** (2:0:5) F.S.Su. Prerequisites: Mus. 202, 292, 367, 368, 370, 372, or equivalent. R. Laycock, Sardoni

Experience for music education majors in orchestra and band conducting and playing of school materials on the students' minor instruments. Observation and application of rehearsal techniques.

377. **Secondary Teaching Procedures.** (3:3:1) F.S. Prerequisite: Tchr. Ed. 301. Gibbons

The development of music education concepts; philosophy, objectives, principles, management and methodology. Fourteen hours of participation in the laboratory school is required.

378. **General Music Practicum.** (2:2:5) F.S. Terry

Designed for music education majors. Experience in materials, methodology, and management of the general music education program in public school.

391. **Harmony at the Keyboard.** (3:3:0) F.Su. Prerequisites: Mus. 192 and moderately advanced keyboard technique. Keeler

Harmonization of figured and unfigured basses and other voices; cadences, sequences, transpositions, modulations, and improvisations at the keyboard.

463. **Piano Accompanying.** (1:0:3) F.S.Su.

468. **Organ Problems.** (2:2:0) S. Prerequisites: Mus. 167, advanced standing as an organ student, and consent of instructor. Keeler

Registration, accompaniment playing, and related problems.

471. **Sixteenth Century Counterpoint.** (3:3:0) F.Su. Prerequisite: Mus. 292. Bradshaw, Nordgren

472. **Eighteenth Century Counterpoint.** (3:3:0) S.Su. Prerequisite: Mus. 292. Bradshaw, Nordgren

479. **Secondary Student Teaching.** (8:full day, 1st and 2nd blocks of semesters) F.S. Prerequisite: Mus. 377. Gibbons, Goodman

See Teacher Education 479.

481, 482. **Orchestration.** (3:3:0 ea.) F.S.Su. Prerequisite: Mus. 292. Bradshaw

484, 485. **History of Music.** (3:3:0 ea.) F.S.Su. (G-HA) Prerequisites: Mus. 192 or Mus. 101, 102 and 103 or equivalent. Cannon, Wakefield

491. **Analytical Techniques.** (3:3:0) S.Su. Prerequisite: Mus. 292. Bradshaw

Development of skill in recognizing processes by which the basic elements of music are organized into compositions of various forms and styles.

537x. **Music for Elementary School Teachers (Advanced).** (2:2:0) Home Study only. Prerequisites: Mus. 102, 237. Groesbeck

Experiences in teaching and various music activities in the elementary school.

565. **Piano Pedagogy.** (2:2:0) S. Prerequisite: advanced standing as a pianist. Keeler

Methods, materials, and problems in teaching piano.

566A,B. 567A,B. **Applied Music Literature.** (2:2:0 ea.) F.S.Su. Prerequisite: senior standing as an applied music major. Belnap, Keeler, Pollei, Weinzinger, Woodward

Intensive study of literature for the major instrument taken by senior and graduate students in applied music with sections for voice, piano, and organ.

568. Vocal Pedagogy. (2:2:0) S.Su. Prerequisite: advanced ability as a singer. Halliday

569. Organ Pedagogy. (2:2:0) S. Prerequisite: Mus. 468. Keeler

583. Acoustics of Music. (3:3:0) S. (Offered 1967-68 and alternate years) Prerequisite: Mus. 292.

587, 588. Composition. (3:3:0 ea.) F.S.Su. Prerequisite: Mus. 292. Bradshaw

601. Music in the Elementary School. (2:2:0) F.Su. Prerequisites: Mus. 237 and the equivalent of an elementary education teaching minor in music. Davis

603. Music in the Junior High School. (2:2:0) S.Su. Prerequisite: Mus. 601. Goodman

605. Influence of Music on Behavior. (3:3:0) F.Su. Prerequisite: general psychology, sociology, or equivalent. Davis, Goodman

610. Supervision and Administration of Music in the Public Schools. (2:2:0) S. Su. Goodman

612. Music Education in Society. (3:3:0) S. Prerequisites: Mus. 484, 485, or equivalent. Davis, Goodman

613. Basic Concepts in Music Education. (2:2:0) F.Su. Goodman

Required of all candidates for graduate music degrees.

615. Vocal Methods, Materials, and Resources. (2:2:0) F.Su. Prerequisite: Mus. 479 or equivalent. Halliday

616. Instrumental Methods, Materials, and Resources. (2:2:0) S.Su. Prerequisite: Mus. 479 or equivalent. Goodman, H. Laycock

620. Advanced Instrumental Conducting. (2:3:3) F.Su. Prerequisites: Mus. 292, 374, 375, 485, or equivalent. R. Laycock, Sardoni

621. Advanced Choral Conducting. (2:3:3) S.Su. Prerequisites: Mus. 166, 292, 364, 374, 375, 485, or equivalent. Earl, Halliday, R. Woodward

625. Summer Music Clinic. (2:4:4) (Two weeks during clinic) Su.

May be counted as either music education or applied music.

630A,B,C. Special Lectures in Music Education. (2:2:0 ea.) Su. Prerequisite: certification in music plus teaching experience.

635. Musical Research Techniques. (3:3:0) F.Su. Prerequisite: graduate standing or consent of instructor. Cannon, Earl

Required of all candidates for graduate music degrees.

637. Medieval and Renaissance Music. (4:4:0) F.Su. Prerequisites: Mus. 484, 485, or equivalent. Cannon

638. Music of the Baroque Period. (3:3:0) S.Su. Prerequisites: Mus. 484, 485, or equivalent. Cannon, Wakefield

639. Classic and Romantic Music. (4:4:0) F.Su. Prerequisites: Mus. 484, 485, or equivalent. Cannon, Wakefield

641. Special Lectures in Musicology. (3:3:0) F.S.Su. Prerequisites: Mus. 484, 485, or equivalent.

648. Collegium Musicum. (1:0:3) F.S. Prerequisite: consent of director. Cannon

Practical experience in designing programs, outlining music and preparing program notes for music from the medieval to modern times.

652. History of Notation and Paleography. (3:3:0) F. (Offered 1966-67 and alternate years) Prerequisites: Mus. 484, 485, 637, or equivalent. Cannon

656. Hymnology. (2:2:0) S. Prerequisites: Mus. 484, 485, or equivalent.

660p. Graduate Applied Instruction. (2:1:0) F.S.Su. Prerequisite: completion of undergraduate applied proficiency requirements and audition.

Fifteen, one-half hour lessons per semester. Two to three hours of practice required per day. Special fee. (For instructors see Mus. 159p.)

663. Solo Recital. (2:1:0) F.S.Su. Bradshaw

One period per week with private teachers, 2-3 hours per day plus public performance of the recital. Required of all graduate students minoring in applied music.

673. Advanced Problems in Musical Structure. (3:3:0) F.Su. Prerequisites: Mus. 491 and 472. Bradshaw

675. Materials of Modern Music. (3:3:0) S.Su. Prerequisite: Mus. 673. Bradshaw

686. Pedagogy of Music Theory. (3:3:0) F.Su. Prerequisite: Mus. 292. Nordgren

687, 688. Composition. (3:3:0 ea.) F.S.Su. Prerequisite: Mus. 588 or equivalent. Bradshaw

693. Pro-Seminar in Music. (2:2:0) S.Su. Prerequisites: Mus. 484, 485, 635, or equivalent, and approval of advisory committee. Cannon, Goodman, H. Laycock

Required of all candidates for graduate music degrees.

694A,B. Independent Readings. (2:0:6 ea.) F.S.Su. Prerequisite: Mus. 693 or equivalent. Cannon, Goodman, H. Laycock

697. Recital for Master of Music Degree. (4:Arr.:Arr.) Prerequisites: approval of advisory committee and graduate music faculty. Belnap, Bradshaw, Halliday, Keeler, Pollei, Smith, Woodward

Required of all Master of Music degree candidates. Includes the preparation of a public recital and a research paper on specific aspects of the recital.

698. Composition for Master's Degree. (2-6:Arr.:Arr.) F.S.Su. Prerequisite: approval of the Music Department graduate committee based upon evidence of ability in composition as manifested in a preliminary work. Bradshaw

To be submitted in lieu of a thesis by candidates for the master's degree majoring in composition.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. Prerequisite: approval of Music Department graduate committee.

Candidates for the master's degree are required to show competence in writing and research before work is begun on the thesis.

753. Advanced Problems in Notation. (3:3:0) (Offered 1966-67 and alternate years) Prerequisite: Mus. 652. Cannon

754. History of Musical Instruments. (3:3:0) F. (Offered 1967-68 and alternate years) Prerequisites: Mus. 484, 485, or equivalent. Wakefield

785. Historical Aspects of Music Theory. (3:3:0) S.Su. (Offered 1966-67 and alternate years) Prerequisite: Mus. 292. Nordgren

794A,B,C,D. Seminar in Music. (3:3:0 ea.) F.S.Su. Prerequisites: Mus. 635, 693, or equivalent, and approval of graduate advisory committee. Cannon, Goodman, H. Laycock

799. Dissertation for Ph.D. Degree. (Arr.) F.S.Su. Prerequisite: approval of graduate advisory committee.

Nursing

Assistant Professor: Morrison (acting dean, 2240 SFLC).

Assistant Professors: Allred, Bruton, Carter, Geddes, Hammond, Lyons, Merrill, Potter, Schmidt, Wright.

Instructors: Kingsolver, Stevensen, White.

Special Instructor: Conrad.

Requirements for a Composite Major and Minor

Baccalaureate Degree

First Year

	F	S	Su
Undergrad. Relig. 121, 122	2	2	
Engl. 111, 112	3	3	
Ch.E. 101, 151	4	5	
P.E.	½	½	½
Bact. 121, 311	3		2
Sociol. 111	3		
Psych. 111		3	
Nurs. 201		2	
Nurs. 211		1	
Food & Nutr. 115			2
Physics 100			3
CDFR 210			3
Total Hours	15½	16½	10½

Third Year

	F	S	Su
Undergrad. relig.	2	2	
Sociol. 403	2		
Nurs. 300	6		
Nurs. 310	5		
Nurs. 351	4		
Nurs. 361	6		
Nurs. 375		6	
Nurs. 385		5	
Nurs. 421		3	
Nurs. 431		4	
Nurs. 475		2	
Nurs. 485		6	
Hist. 170	3		
Hum.	3		
*Total Hours	14-16-17	13-16	

Second Year

	F	S	Su
Undergrad. relig.	2	2	
P.E.	½		
Nurs. 202	5		
Nurs. 212	5		
Nurs. 300		6	
Nurs. 310		5	
Nurs. 351		4	
Nurs. 361		6	
Zool. 261, 262	5		
Sociol. 403		2	
Hist. 170		3	
Hum. elective		3	
*Total Hours	17½	16-17	

Fourth Year

	F	S	Su
Undergrad. Relig.	2	2	
Nurs. 375	6		
Nurs. 385	5		
Nurs. 421	3		
Nurs. 431	4		
Nurs. 475	2		
Nurs. 485	4		
Hum. elective	3	3	
Nurs. 478		3	
Nurs. 488		5	
Nurs. 490		3	
*Total Hours	13-16	14-16	

*A selection of classes will be made so that the hours taken will be within the totals shown.

BRIGHAM YOUNG UNIVERSITY
ASSOCIATE DEGREE PROGRAM IN NURSING
CURRICULUM

PLAN A

First Year

	F	S	Su
Engl. 111	3		
Chem. 100	2		
Chem. Lab. 104	1		
Bact. 121	3		
Undergrad. Relig. 121	2		
Food & Nutr. 115	2		
Psych. 111	3		
P.E.	½		½
Nurs. 223		8	
Zool. 261, Lab. 262		5	
CDFR 210		3	
Nurs. 224			9
Undergrad. Relig. 122			2
Total Hours	16½	16	11½

Second Year

	F	S	Su
Nurs. 225	8		
Sociol. 111	3		
Undergrad. Relig. 211	2		
Engl. 112	3		
Nurs. 226		9	
Undergrad. Relig. 212		2	
Hist. 170		3	
Total Hours	16	14	

CURRICULUM

PLAN B

First Year

	F	S	Su
Chem. 100			2
Chem. Lab. 104			1
Engl. 111			3
Bact. 121			3
Undergrad. Relig. 121			2
P.E.			½
Nurs. 223	8		
Food & Nutr. 115	2		
Zool. 261, Lab. 262	5		
Undergrad. Relig. 122	2		
Nurs. 224		9	
Psych. 111		3	
Undergrad. Relig. 211		2	
CDFR 210		3	
Total Hours	17	17	11½

Second Year

	F	S	Su
Nurs. 225			8
Sociol. 111			3
P.E.			½
Nurs. 226	9		
Undergrad. Relig. 212	2		
Engl. 112	3		
Hist. 170	3		
Total Hours	17		11½

Courses

201. **Fundamentals of Nursing.** (2:2:0) S. Prerequisites: Bact. 121, Chem. 101 and concurrent registration in Chem. 151 and Psych. 111.
Hammond, Conrad, Geddes, Schmidt

Introduction to nursing. Emotional, spiritual, social, and physiological needs of patients in relationship to specific nursing skills and techniques fundamental to the maintenance of health and life.

202. **Introductory Medical-Surgical Nursing.** (5:5:0) F. Prerequisites: Nurs. 201, Bact. 311, Physics 100, Food & Nutr. 115, CDFR 210 and concurrent registration in Zool. 261 and 262.
Conrad, Geddes, Hammond, Lyons, Schmidt

Introduction to the essentials of medical-surgical nursing with emphasis on asepsis and pharmacology.

211. **Fundamentals of Nursing Laboratory.** (2:0:3) S. Prerequisite: concurrent registration in Nurs. 201. Conrad, Geddes, Hammond, Lyons, Schmidt

Supervised hospital experience to aid in the identification of patients' needs and in the development of fundamental nursing skills.

212. **Introductory Medical-Surgical Nursing Laboratory.** (5:0:15) F. Prerequisite: concurrent registration in Nurs. 202.
Conrad, Geddes, Hammond, Lyons, Schmidt

Selected laboratory experiences on pediatric, medical, and surgical hospital units to further develop nursing skills and implement nursing principles relative to operating room, administration of medications, physical therapy, nutrition, diagnostic procedures, and oxygen therapy.

223. **Fundamentals of Nursing.** (8:4:16) F.S. Prerequisites: Chem. 100 and 104, Bact. 121, Psych. 111, Food & Nutr. 115, and Zool. 261 and 262.
Bruton

Emphasis is placed on scientific principles and maintenance of normal physiology. Physical, mental, social, intellectual, and spiritual needs of a person in health and illness are discussed. Some principles of interpersonal relations and communications are introduced early to serve as a basic foundation for all nursing. Skill is developed in basic nursing procedures.

224. **Physical and Mental Illness I.** (9:4:20) S.Su. Prerequisite: Nurs. 223.
Wright

Provides opportunity for furthering nursing skills and understandings founded on principles from the physical, biological and behavioral sciences.

225. **Maternal and Child Health.** (8:4:16) F.Su. Prerequisite: Nurs. 224.
Bruton

The course is designed to introduce the student to the role of the nurse in maternal and child care with emphasis on the family as a unit of society. The student is helped to gain knowledge and understanding of the basic needs in the nursing care of mothers, infants, and children, in health and illness.

226. **Physical and Mental Illness II.** (9:4:20) F.S. Prerequisite: Nurs. 225.
Wright

This course is designed to promote recognition of problems of the emotionally and physically ill, and to develop skill in observation, understanding, modification, and reporting of behavior. Also, opportunity is provided to function as a member of the nursing team, to carry out health teaching, to participate in rehabilitation of the long-term patient, and to gain understanding of principles related to problem solving and professional adjustments.

288. **Family Health and Home Nursing.** (1:1:0) F.S. (Eight-week block) Schmidt

For nonmajors. Essential knowledge and attitudes about healthful family living. Skills in giving home nursing care to the sick or injured. Essentials of maternal health and child care.

300. **Intermediate Medical-Surgical Nursing.** (6:6:0) F.S. Prerequisites: Nurs. 202 and concurrent registration in Sociol. 403.
Conrad, Geddes, Hammond, Lyons, Schmidt

Continuation of medical-surgical nursing principles with an emphasis on energy, sensation, body metabolism, reproductory development and sensory perception.

310. **Intermediate Medical-Surgical Nursing Laboratory.** (5:0:15) F.S. Prerequisite: concurrent registration in Nurs. 300.
Conrad, Geddes, Hammond, Lyons, Schmidt

Experience in providing direct nursing care to patients with acute endocrine, metabolic, circulatory and cardiac problems.

351. **Maternal and Child Health Nursing.** (4:4:0) F.S. Prerequisites: Nurs. 202 and CDFR 210. Carter, Potter

Family-centered study of parenthood with a focus on mothers throughout the maternity cycle, newborn infants, and children.

361. **Maternal and Child Health Nursing Laboratory.** (6:0:18) F.S. Prerequisite: concurrent registration in Nurs. 351. Carter, Potter

Experience with families and direct nursing care of mothers and children in physicians' offices, clinics, homes, schools and hospital divisions.

375. **Advanced Medical-Surgical Nursing.** (6:6:0) F.S. Prerequisite: Nurs. 300. Stevensen

Advanced study of medical-surgical nursing principles emphasizing complex problems related to sensation, motion, body regulation, and maintenance of health and life.

385. **Advanced Medical-Surgical Nursing Laboratory.** (5:0:15) F.S. Prerequisite: concurrent registration in Nurs. 375. Stevensen

Advanced experience in providing nursing care for children and adults with complex problems of locomotion, cerebral and spinal cord dysfunction, endocrine and fluid balance impairment with emphasis on rehabilitation.

421. **Mental Health and Psychiatric Nursing.** (3:6:0) F.S. (Eight-week block) Prerequisites: Psych. 111 and Sociol. 111.

Introduction to theoretical concepts basic to the knowledge and understanding of psychiatry and psychiatric nursing. It includes therapeutic nursing of the mentally ill patient, rehabilitation and the promotion of mental health.

425. **Home Nursing Instructorship.** (2:2:1) F.S. Prerequisite: completion of or concurrent registration in Tchr. Ed. 377. Schmidt

Designed to develop skill in performing and teaching basic home nursing procedures necessary in care of the sick and injured and in mother and baby care. Completion of the course allows students to teach Red Cross class in these two areas.

431. **Mental Health and Psychiatric Nursing Laboratory.** (4:0:24) F.S. (Eight-week block) Prerequisite: concurrent registration in Nurs. 421.

Laboratory course taught concurrently with Nurs. 421 at the Utah State Hospital.

475. **Principles of Public Health Nursing.** (2:4:0) F.S. (Eight-week block) Prerequisites: Nurs. 351 and concurrent registration in Nurs. 485. Allred, Merrill

Concepts and organization of nursing in the home and community. The principles of comprehensive family service in home, school, and community.

478. **Senior Comprehensive Nursing.** (3:3:0) F.S. Prerequisites: Nurs. 351 and 375. Geddes

Principles of nursing, teaching, supervision, administration, research, and their implications for leadership in professional nursing.

485. **Public Health Nursing Laboratory.** (4:0:24) F.S. (Eight-week block) Prerequisite: concurrent registration in Nurs. 475. Allred, Merrill

Experience in public health nursing agency in giving comprehensive nursing care to families and in working with allied professional workers and community agencies. For this course each student will be expected to have her own transportation.

488. **Senior Comprehensive Nursing Laboratory.** (6:0:18) F.S.. Prerequisite: concurrent registration in Nurs. 478. Geddes

An analytical approach to professional responsibilities and functions in nursing with emphasis on nursing team and leadership activities.

490. **Senior Seminar in Professional Problems.** (3:3:0) S. Prerequisite: senior standing in nursing. Morrison

A survey of the development of nursing and the social obligations and professional problems confronting the young graduate nurse. The course includes the scope of existing vocational opportunities, qualifications required, legal aspects of nursing, and professional responsibilities in nursing organizations.

Philosophy

Professors:	Riddle (coordinator, 123 JS), Madsen, Yarn.
Associate Professors:	Horsley, Patch.
Instructor:	Cook.

No course in this area carries general education credit for religion.

An undergraduate minor may be obtained in this area, but no major is available. Under certain conditions a graduate minor may be obtained in philosophy; for further information in this regard refer to the Graduate School Catalog.

Requirements for a Philosophy Minor

An undergraduate philosophy minor requires a minimum of 14 hours of course work which must include all of the following courses: Phil. 380, 381, 470, and 471.

Courses

380. **Survey of Philosophy.** (2:2:0) F.S.Su. Home Study also. (G-HA m)
Introduction to types, fields, and problems of philosophy.

381. **Deductive Logic.** (2:2:0) F.Su. (G-HA m) Riddle
Formal aspects of language and deductive logic.

382. **Inductive Procedures.** (2:2:0) S. (G-HA m) Riddle
Scientific methods.

385. **Ethics: Plato to Dewey.** (2:2:0) F.Su. (G-HA m) Patch, Yarn
An historical approach to the major ethical theories of the western world.

386. **Introduction to Philosophy of Religion.** (2:2:0) F. (G-HA m) Madsen, Yarn
A comparative study of major assumptions in religious thought.

470. **History of Ancient Philosophy.** (3:3:0) F.Su. (m) Yarn
Western philosophy from the 6th century B.C. to the 14th century A.D.

471. **History of Modern Philosophy.** (3:3:0) S.Su. (m) Yarn
Western philosophy from the 15th century to the 19th century.

472. **Contemporary Ethics.** (2:2:0) S.Su. (m) Madsen, Patch
Examination of the meaning and function of moral judgments and the bases of ethical commitment.

473. **Philosophy of Science.** (2:2:0) F. (m) Riddle
Examination of the conceptual framework of modern science.

474. **Types of Religious Philosophy.** (2:2:0) F. (G-HA m) Madsen, Yarn
Survey of philosophical bases of Christian religion.

475. **Contemporary Anglo-American Philosophy.** (2:2:0) F.S.Su. (m) Madsen
Men and movements in naturalism and logical positivism.

476. **Contemporary Continental Philosophy.** (2:2:0) F.S.Su. (m) Madsen
Twentieth century developments in existentialism, phenomenology, and Marxism.

477. **Scholasticism, Humanism, Mysticism.** (2:2:0) F.S.Su. (m) Horsley

483. **Problems of Knowledge.** (2:2:0) F. (G-HA m) Riddle
Analysis of how experience becomes knowledge.

498. **Readings in Philosophy.** (1-2:1-2:0) F.S.Su. (m)

591. **Seminar: Philosophical Analysis.** (2:2:0) S. Riddle

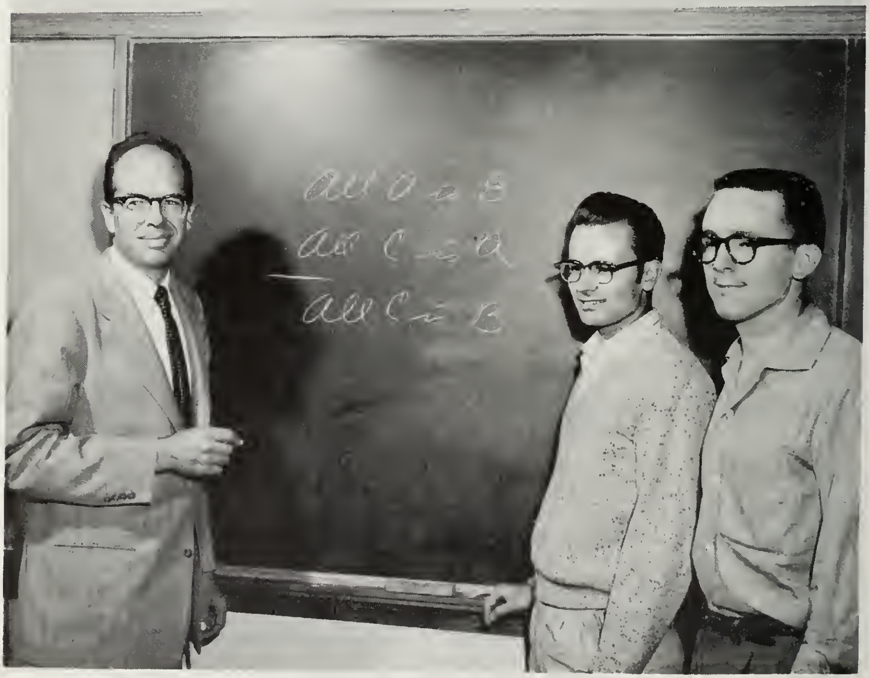
592A,B. **Seminar in the History of Philosophy: Ancient and Medieval.** (2:2:0 ea.) S.Su. Prerequisite: Phil. 470. Yarn

592C,D. **Seminar in the History of Philosophy: Modern.** (2:2:0 ea.) S.Su. Prerequisite: Phil. 471. Yarn

593. **Seminar: Philosophy of Religion.** (2:2:0) S.Su. Madsen

594. **Seminar: Philosophy of Science.** (2:2:0) S. Riddle

688. **Readings in Philosophy.** (1-4:1-4:0) F.S.Su.



Instructor and students facing class in philosophy

Physical Education

Professors:	Geddes (chairman — Men, 266 SFH), Holbrook (chairman — Women, 296 RB), Hart, Hartvigsen, E. R. Kimball.
Associate Professors:	Bangerter, Call, Jensen, Roundy, Watts.
Assistant Professors:	Dixon, Hafen, A. Heaton, Jacobson, Robison, Tuckett.
Instructors:	Apostol, Bateman, Bunker, Cryer, Davis, deHoyos, Edwards, Earnest, Francis, Fabris, Hatch, Hawkes, Hirst, B. Holbrook, Hudspeth, Jones, C. R. Kimball, Lindley, Michaelis, Moe, Naylor, Seamons, Startin, Tucker, Uibel, Wallace, Witbeck.
Special Instructors:	Gibb, Yerg.

Each student registering at the University is required to complete one physical education activity course in the 100-199 series during each semester of his freshman and sophomore years. Physical education majors and minors fulfill this requirement by completing the courses 231-237 or 241-245. Transfer students must have completed the equivalent courses or complete them before graduation.

Exceptions: (1) Students who are majoring in and who complete a major in engineering science together with requirements for an air science commission are not subject to the physical education requirement. 2) Engineering science students who withdraw from the air science program after two years are exempt from one semester hour of physical education.

A large variety of activities is available for selection. Participation in these courses provides the student with an opportunity for organic development, neuromuscular skill, social contact in game and team situations, and other carry-over values.

Men students are required to make a $3.00 deposit on a towel and a padlock, $2.50 of which is refundable at the close of the school year upon return of padlock and the last towel issued.

Any student desiring exemption from physical education for medical reasons must obtain an excuse from a Student Health Center physician and present it to the chairman of the physical education department. Adaptive physical education courses are held each semester for handicapped students. Students with handicaps are encouraged to contact the department for special counseling.

UNDERGRADUATE MAJOR REQUIREMENTS

I. Physical Education — Men

All students majoring in physical education must complete the following program:

A. Required courses which assist in fulfilling the general education requirements:

1. Biological Science:	**Hours**
Zool. 105	3
Zool. 261, 262	5

2. Physical Science:	
Chem. 100, 104 or Chem. 101 or Chem. 105	3
Physics 100 or 105	3
3. Social Science:	
Psych. 111	3
Sociol. 111 or 112	3
4. Humanities:	
Speech 102	2
5. Mathematics - Science - Language:	
Math. 105	3
P.E. 462	3
6. Religion:	
Church Adm. 365	2
7. Physical Education: Two of the following courses:	
P.E. 231, 232, 233, 234, 235, 236, 237	2

B. Physical Education Major Courses:

1. Students may major in physical education by completing the following courses:

   (Any teaching minor may be chosen with this list; a health education or driver education minor, however, are the only minors accepted for certification in Utah.)

   36½-38½-Hour List (Major):

   P.E. 180, 181, 182; five of the following: 231, 232, 233, 234, 235, 236, 237; 286, 201 or 330; three of the following: 370, 371, 372, 373, 374; 314, 341, 344, 378 (men), 413, 446, 449, 464; Health 381.

2. Students may elect a composite major in physical education by completing the following courses plus 12 hours in health or recreation education (Students must complete a teaching minor in a subject other than physical education, health education, or recreation education in addition to this list):

   28-Hour List (Dominant Subject):

   P.E. 180, 181 or 182, 201; five of the following: 231, 232, 233, 234, 235, 236, 237; 341, 344; two of the following: 370, 371, 372, 373, 374; 378 (men), 413, 446, 464, and 314 or 449.

   12-Hour List (Health Education Related Subject):
   Health 121, 381, 521; and 5 hours selected from the following in consultation with the Department of Health and Safety Education: Health 451, 560, 561; Psych. 340; Food & Nutr. 115.

   12-Hour List (Recreation Education Related Subject):
   Rec. Ed. 301, 337, 387, 407 or 123 and 388, 505.

3. In order to be well prepared as an athletic coach or physical education teacher, it is recommended that the student take five or six additional hours in one of two areas of emphasis listed below:

   a. Athletic Coaching Emphasis (6 hours selected from):
   P.E. 370, 371, 372, 373, 374, 406, 411.

   b. Adaptive Physical Education Emphasis (5 hours selected from):
   P.E. 447; Rec. Ed. 570.

II. Physical Education — Women: Composite Major

This information shows the minimum to meet state certification and B.Y.U. graduation requirements. The student takes the 28-hour physical education list and in addition takes any one of the 14-hour related lists.

The department recommends that the student in the composite major exceed the 42 hours listed for the total of the dominant 28-hour list and the related 14-hour list. It is recommended that the total approximate 58 hours.

If a student takes only the 42 hours required for the composite, the department recommends that she complete a separate recognized teaching minor of 16 hours. When the student completes a separate minor, the composite major need total only 40 hours, 28 of these to be in the major.

A. 28-Hour List; Physical Education Dominant Subject:

P.E., Swimming (elect from 160, 161, 261, 264, 265), 1 credit hour; 181, Folk Dance, ½ credit hour; 182, Square Dance, or 184, Nat'l. Dance Forms, ½ credit hour; 187, Beginning Modern Dance, ½ credit hour; 188, Intermediate Modern Dance, ½ credit hour; 207, Sports Officiating, 2 credit hours; 241, Skills and Teaching Techniques, 2 credit hours; 242, Skills and Teaching Techniques, 2 credit hours; 243, Skills and Teaching Techniques, 2 credit hours; 244, Skills and Teaching Techniques, 2 credit hours; 245, Skills and Teaching Techniques, 2 credit hours; 280, Techniques of Teaching Social Dance, 1 credit hour; 330, Principles of Physical Education, 3 credit hours; 341, General Kinesiology, 3 credit hours; 344, Physiology of Activity, 3 credit hours; 378, Practicum, 1 credit hour; 446, Adaptive and Corrective Physical Education, 2 credit hours.

B. 14-Hour List, Health Education—Related Subject:

Health Ed. 121, First Aid, 2 credit hours; 381, Program Planning in Second. Health Ed., 3 credit hours; 451, School Health and Community Relations, 2 credit hours; 521, Evaluation and Selection of School Health Material, 2 credit hours; elect from 560, 561, Psych. 340, Food & Nutr. 115, 5 credit hours.

(Health education can be a separate and complete minor. The student who wishes to complete a health minor should consult the catalog under health education for the 16-hour list for state certification.)

C. 14-Hour List, Dance — Related Subject:

Any two of the following:

P.E. 281, Square Dance Teach. & Calling Tech., 1 credit hour; 282, Square Dance, Advanced, 1 credit hour; 283, Social Dance, Advanced, 1 credit hour; 284, Folk Dance, Advanced, 1 credit hour; 285, Latin-American Dance, 1 credit hour.

All of the following:

P.E. 287, Modern Dance Technique Int., 1 credit hour; 288, Modern Dance Technique Advanced, 1 credit hour; 380, Modern Dance Production, 2 credit hours; 383, Rhythmic Analysis, or 384, Accompaniment, 2 credit hours; 387, Modern Dance Composition, Int., 1 credit hour; 388, Modern Dance Composition, Adv., 1 credit hour; 484, Principles and Philosophy of Dance, 2 credit hours; 485, History of Dance, Advanced, 2 credit hours.

D. 14-Hour List, Driver and Safety Education—Related Subject:

Health Ed. 121, First Aid, 2 credit hours; 325, Safety Education, 2 credit hours; 444, Driver Education Planning, 2 credit hours; 445, Driver and Traffic Education, 4 credit hours; elect 4 hours from Health Ed. 401, 521, 530, 460, Psych. 321, 4 credit hours.

(Driver and safety education can be a separate and complete minor. The student who wishes to complete a driver and safety education minor should consult the catalog under health education for the 16-hour list for state certification.)

E. 14-Hour List, Recreation—Related Subject:

Rec. Ed. 301, Introduction to Recreation, 2 credit hours; 337, Philosophy of Recreation, 2 credit hours; 371, Planning for Family & Neighborhood Recreation, 2 credit hours; 387, Planning for Social Recreation, 2 credit hours; 407, Admin. of Playgrounds and Community Centers, 3 credit hours; or 123, Skills & Tech. for Out. & Rec., 1 credit hour, and 388, Leadership in Church Dance, 2 credit hours; 505, Administration of Commun. Rec., 3 credit hours.

III. Composite Major:

Students may complete a composite major by completing 28 semester hours in physical education, 20 semester hours in health education, and 12 semester hours in recreation education. For the list of courses see the Teacher Education Section of this catalog.

IV. Prephysical Therapy (for men or for women):

Upon completion of the following courses, prephysical therapy students may graduate with the B.S. degree with a major in physical education (prephysical therapy emphasis) and a minor in zoology. Students then are eligible to apply for admission into one of a number of approved physical therapy schools located throughout the United States.

Four-Year Course in Prephysical Therapy

Freshman Year

	Hours
Undergrad. relig.	4
Engl. comp.	6
Health 130	2
Math. 101, 111 or 105, 106	6-8
Bact. 121	3
P.E. 230 or 240	1-2
Zool. 105	3
Psych. 111	3
Hist. 170	3
	31

Sophomore Year

	Hours
Undergrad. relig.	4
Hum.	3
Engl. lit.	3
Chem. 101, or 105, 106	5
Zool. 213 or 363	4
Zool. 261, 262	5
Sociol. 111 or 112	3
P.E. 235 or 261	1
Physics 105 or 201, 202	3-4
Speech 101 or 102	3-2
	34

Junior Year

	Hours
Undergrad. relig.	4
P.E. 341	3
P.E. 344	3
Psych. 185	3
Zool. 276	3
CDFR 210	3
Food & Nutr. 115	2
Health 121	2
Psych. 320 or 321, 322	2
Health 451	2
Electives	4
	31

Senior Year

	Hours
Undergrad. relig.	4
P.E. 446	3
P.E. 462	3
P.E. 464	2
Engl. 216	2
Rec. Ed. 570	2
P.E. 449	3
Health 560	2
Health 561	3
P.E. 447	3
P.E. 378	1
Electives	4
	32

Total 128

V. Undergraduate Minor Requirements

A. Physical Education — Men

All students minoring in physical education must complete the following program:

1. Required courses to fulfill the general education requirements:

	Hours
a. Religion Church Adm. 365	2
b. Physical Education Two of the following: P.E. 231, 232, 233, 234, 236, 237	2

2. Physical Education Minor Courses—used only with a health education major for Utah certification—(20 hours):

P.E. 180, 181 or 182, 235; two of the following: 231, 232, 233, 234, 236, 237; three of the following: 370, 371, 372, 373, 374; 201 or 330; 314, 341, 344.

B. Physical Education — Women

P.E. 181, 182, 187, 188; three courses from 241, 242, 243, 244, 245; 330, 341, 375 or 376.

C. Dance, Nonteaching Emphasis:

P.E. 180, 181, 182, 183, 187, 188, 287, 288, 380, 383, 387, 388, 389, 484, 485.

Courses

Required Activity Courses

101, 102. Freshman Activities. (½:0:2-3 ea.) F.S.

104. Recreational Sports. (½:0:2-3) F.S.Su.

110. Fencing, Beginning. (½:0:2-3) F.S. deHoyos, Hafen

113. Wrestling, Beginning. (½:0:2) F.S.

114. Wrestling, Intermediate. (½:0:2) F.S. Prerequisite: P.E. 113 or equivalent.

115. Squash, Beginning. (½:0:2-3) F.S.

117. Paddleball, Beginning. (½:0:2-3) F.S.

119. Handball, Beginning. (½:0:2-3) F.S.

121. Track and Field, Beginning. (½:0:2) F. Robison, James

123. Badminton, Beginning. (½:0:2) F.S.Su. James, Robison

126. Archery, Beginning. (½:0:2-3) F.S.Su. Jacobson

128. Bowling, Beginning. (½:0:5) F.S.Su. Fee. Dixon

131. Golf, Beginning. (½:0:2) F.S.Su. Tucker

132. Golf, Intermediate. (½:0:2) F.S.Su. Prerequisite: P.E. 131 or equivalent. Tucker

133. Tennis, Beginning. (½:0:2) F.S.Su. Dixon, Hawkes

134. Tennis, Intermediate. (½:0:2) F.S.Su. Prerequisite: P.E. 133 or equivalent. Dixon, Hawkes

135. Rugby, Beginning. (½:0:2-3)

140. Basketball, Beginning. (½:0:2) F.S. Wallace, Witbeck

141. Basketball, Intermediate. (½:0:2) F.S. Prerequisite: P.E. 140 or equivalent. Bunker

142. Speedball, Beginning. (½:0:2-3) F.S.

144. Volleyball, Beginning. (½:0:2) F.S.Su. Geddes, Wallace

145. Volleyball, Intermediate (Men). (½:0:2-3)F.S. Geddes, Lowell

147. Soccer, Beginning. (½:0:2-3) F.S. Jones, Wallace

148. Soccer, Intermediate. (½:0:2-3) F.S.

149. Field Sports. (½:0:2-3) F.S. Wallace

152. Softball. (½:0:2-3) F.

154. Football, Beginning. (½:0:5) F. Tuckett

155. Football, Intermediate. (½:0:5) F. Hudspeth

156. Baseball, Beginning. (½:0:5) F.S. Tuckett

157. Baseball, Intermediate. (½:0:5) S. Tuckett

160. Swimming, Beginning. (½:0:2-3) F.S.Su. Hirst, Uibel, Wallace

161. Swimming, Intermediate. (½:0:2-3) F.S.Su. Prerequisite: P.E. 160 or equivalent. Rigby, Uibel, Wallace

163. Synchronized Swimming. (½:0:2-3)

164. Water Polo. (½:0:2-3) F.S.

166. Canoeing. (½:0:4) F.S.Su. Prerequisite: ability to pass swimming test. Hirst, Holbrook, Wallace

168. Beginning Diving. (½:0:2-3) F.S.

169. Swimming for the Handicapped. (½:0:2)

170. Tumbling. (½:0:2-3) F.S.Su.

171. Trampoline and Tumbling. (½:0:2) F.S. Moe, Wallace

173. Gymnastics, Beginning. (½:0:2) F.S. Bateman, Wallace

174. Gymnastics, Intermediate. (½:0:2) F.S. Prerequisite: P.E. 173 or equivalent. Wallace

175. Adaptive Physical Education. (½:0:2) F.S.Su. Prerequisite: consent of instructor or referral by Health Center. Francis

176. Activities for Fitness. (½:0:2-3) F.S.Su. Hirst, Jacobson

177. Principles and Methods of Body Mechanics. (½:0:2-3) F.S.Su.

178. Progressive Weight Training, Beginning. .(½:0:2-3) F.S.Su.

180. Social Dance. (½:0:2-3) F.S.Su.

181. Folk Dance. (½:0:2-3) F.S.Su.

182. Square Dance. (½:0:2-3) F.S.Su.

183. Specialty Dance. (½:0:2-3) F.S. F. Hatch, Oliphant

Entertainment and program dance forms.

184. National Dance Forms. (½:0:2-3) F.S.Su. A. Heaton, Oliphant

American and foreign dance forms with their application and organization in folk, round, and square dance sequences.

185. Ballet Technique, Beginning. (½:0:2-3) F.S. Gibb

186. Ballet Technique, Intermediate. (½:0:2-3) F.S. Prerequisite: P.E. 185 or equivalent. Gibb

187. Modern Dance, Beginning. (½:0:2-3) F.S.Su. F. Hatch, L. Hatch Gibb, Yerg

188. Modern Dance, Intermediate. (½:0:2-3) F.S. Prerequisite: P.E. 187 or equivalent. Gibb, F. Hatch, L. Hatch, Oliphant, Yerg

192. Outing Activities. (½:0:3-5) F.S.Su. Uibel

Selected seasonal activities which may include walking, nature observation and study, horseback riding, snowshoeing, coasting, bicycling, roller skating, canoeing, sleighing, ice skating, tracking and trailing, and outdoor cookery.

195. Skiing, Beginning. (½:0:5) F.S. Tucker, Uibel

First year skiing for participants of varying abilities. Sections formed on the basis of ability, with instruction suited to varying skill levels in fundamentals of skiing. The student furnishes his ski equipment and pays ski tow fees. Fee. (Permission to withdraw with refund restricted.)

196. **Skiing, Intermediate.** (½:0:5) F.S. Tucker, Uibel
Second year skiing for participants of varying abilities. Classification for instruction based upon ability. The student furnishes all his ski equipment and pays ski tow fees. Fee. (Permission to withdraw with refund restricted.)

201. **Introduction to Physical Education.** (2:2:0) F.S.

207. **Sports Officiating (Women).** (2:1:3) F. Wallace
Rules, techniques, problems, and procedures in officiating softball, volleyball, and basketball. National ratings may be obtained by passing the O.S.A. examinations.

231. **Sports Fundamentals for Majors.** (1:0:3) F.S. Bunker, Roundy
Flag football, soccer.

232. **Sports Fundamentals for Majors.** (1:0:3) F.S. Bangerter, Moe
Gymnastics, tumbling.

233. **Sports Fundamentals for Majors.** (1:0:3) F.S. Jones
Archery, badminton.

234. **Sports Fundamentals for Majors.** (1:0:3) F.S. Geddes, Tucker
Volleyball, golf.

235. **Sports Fundamentals for Majors.** (1:0:3) S. Cryer, Jensen
Swimming.

236. **Sports Fundamentals for Majors.** (1:0:3) F.S. Jones, Uibel
Tennis, weight training.

237. **Sports Fundamentals for Majors.** (1:0:3) F.S.
Calisthenics, games, and relays.

241. **Skills and Teaching Techniques.** (2:0:4) F. Hirst
Soccer, speedball, volleyball, conditioning and body mechanics.

242. **Skills and Teaching Techniques.** (2:0:4) S. Hawkes
Outdoor games, track and field, softball, marching, and gym apparatus.

243. **Skills and Teaching Techniques.** (2:2:4) S. Wallace
Tumbling, trampoline, and gymnastics.

244. **Skills and Teaching Techniques.** (2:0:4) F. Hirst
Hockey, badminton, basketball, recreational games and rope jumping.

245. **Skills and Teaching Techniques.** (2:0:4) S. Jacobson
Archery, golf, bowling, tennis.

250. **Ski Instruction Methods.** (1:0:4) F. Uibel
Instruction course in skiing for those who wish to qualify as student instructors in the ski program.

261. **Swimming, Advanced.** (1:0:3) F.S.

264. **Life Saving.** (1:0:3) S.

265. **Water Safety Instruction.** (1:0:3) F.S.Su.

268. **Diving, Intermediate.** (1:0:3) F.S.Su.

279. **Folk Dance Teaching Techniques.** (1:1:2) S. M. B. Jensen
280. **Social Dance Teaching Techniques.** (1:0:2-3) F.S.Su. Prerequisite: P.E. 180. A. Heaton

281. **Square Dance Teaching and Calling Techniques.** (1:0:3) F. Prerequisite: Thorough performance and knowledge of square dance. M. B. Jensen
Analysis of dance forms, their presentation for ready learning with study and laboratory experience in square dance teaching and calling.

282. **Square Dance, Advanced.** (1:0:2-3) F.S. M. B. Jensen

283. **Social Dance, Advanced.** (1:0:2-3) F.S.

284. **Folk Dance, Advanced.** (1:0:2-3) F.S. M. B. Jensen

285. **Latin American Dance.** (1:0:2-3) F.S. de Hoyos

286. **Teaching Dance in Secondary Schools.** (1:1:2) Su. (Offered 1966-67 and alternate years) Prerequisites: P.E. 180, 181, 182 or equivalent.
Methods of teaching social, square, and folk dance in secondary schools.

287. **Modern Dance Technique, Intermediate.** (1:0:6) F. Prerequisite: P.E. 187, 188. Yerg

288. **Modern Dance Technique, Advanced.** (1:0:6) S. Yerg
Exploration and experimentation with techniques and composition.

289. **Modern Improvisation.** (1:0:4) F.

314. **Intramural Sports.** (2:2:0) F.S.

330. **Principles of Physical Education.** (3:3:0) F.S. Holbrook
The principles of physical education and the relationship of physical education to total education.

341. **General Kinesiology.** (3:3:0) F.S. Prerequisites: Zool. 261 and 262 or equivalent. Bangerter, Jensen

344. **Physiology of Activity.** (3:3:0) F.S.Su.
A course in applied human anatomy and physiology.

371. **Football Fundamentals and Coaching.** (2:1:2) F.S. Hudspeth

372. **Basketball Fundamentals and Coaching.** (2:1:2) F.S. Watts
Theory and fundamentals of offensive and defensive systems, and schedule making.

373. **Track and Field Fundamentals and Coaching.** (2:1:2) F.S. Robison
Theory, fundamentals, and techniques of track and field athletics with some emphasis on management of meets.

374. **Baseball Fundamentals and Coaching.** (2:1:2) F.S. Tuckett
Theory, fundamentals, problems, and techniques of baseball with some consideration of team tactics, rules, and conditioning.

375. **Physical Education for Teachers of Primary Grades.** (2:0:4) F.S.Su. Hirst, Jacobson, Michaelis
Analysis of the fundamentals, the development of skills, and the application of methods in the teaching of games, rhythms, and recreation activities for grades 1, 2, and 3.

376. **Physical Education for Teachers of Intermediate Grades.** (2:0:4) F.S.Su. Hirst, Jacobson, Michaelis
Analysis of fundamentals and development of skills for teaching in games, rhythms, and recreation activities for grades 4, 5, and 6.

377. **Secondary Teaching Methods and Procedures.** (3:3:1) F.S. Prerequisite: Tchr. Ed. 301. Bangerter
See Tchr. Ed. 377 for description.

378. **Physical Education Practicum.** (1:0:2-3) F.S.

380. **Modern Dance Production.** (2:3:0) F. Prerequisites: P.E. 287, 288. F. Hatch

383. **Rhythm Analysis for Dance.** (2:3:0) F.
The analysis of rhythm, its relationship to movement, and its forms of sound and musical accompaniment.

384. **Accompaniment for Modern Dance.** (2:3:2) S. Prerequisite: P.E. 383 or consent of instructor.

The analysis and use of musical instruments and musical forms as accompaniment for dance or as stimulus for choreography.

386. **International Style Ballroom Dancing.** (1:0:3) F.

387. **Modern Dance Composition, Intermediate.** (1:0:4) F. Prerequisite: P.E. 187, 188. L. Hatch

Fundamental compositional form with emphasis on locomotor movement and spatial elements.

388. **Modern Dance Composition, Advanced.** (1:0:4) S. Prerequisite: P.E. 287. L. Hatch

Fundamental compositional forms with emphasis on the qualities of movement, rhythm, structural elements and ideational and sensory stimuli.

389. **Modern Dance Improvisation.** (1:0:4)

406. **Sports Officiating.** (2:2:1) F.S.

Rules, techniques, problems, and procedures in officiating football, basketball, and other team and individual sports. Suggested for those desiring to officiate in the intramural program.

411. **Problems in Interschool Athletics.** (2:2:0) F.S. E. R. Kimball, Roundy

413. **Organization and Administration of Physical Education.** (2:2:0) F.S. Home Study also. Prerequisite: P.E. 330. Hartvigsen

Administrative problems arising out of organizing and conducting health, physical education, and recreation programs in schools and communities.

446. **Adaptive and Corrective Physical Education.** (3:3:0) F.S. Call, Francis

447. **Advanced Adaptive and Corrective Physical Education.** (3:3:2) S. Prerequisite: P.E. 446. Call, Francis

Techniques of postural evaluation, muscle testing, therapeutic exercise and relaxation; extent and limitations of the physical educator's responsibility for recognition of divergent conditions and advisement and referral procedures.

449. **Problems of Athletic Conditioning and Injuries.** (3:3:1) F.S. Call, Francis

462. **Elementary Statistics for Health and Physical Education.** (3:3:0) F.S.Su. Prerequisite: Math. 110 or equivalent. Hart

Counts toward 9-hour science group requirement.

464. **Introduction to Tests in Health and Physical Education.** (2:2:0) F.S.Su. Prerequisite: P.E. 462. Hart

Introduction to the history and development of measurement in health and physical education. Description of important tests in these areas with emphasis on techniques of test administration and application of results.

470. **Teaching Progression in Individual Sports (Women).** (2:4:0) S. Prerequisite: skills classes or equivalent. Jacobson, Jones

Materials, methods, and teaching progression in individual sports such as archery, badminton, bowling, golf, and tennis.

472. **Teaching Progression in Team Sports (Women).** (2:2:2) F.S. Hirst

Materials, methods, and teaching progression in team sports such as basketball, field hockey, soccer, softball, speedball, and volleyball.

474. **Teaching Techniques in Gymnastics.** (2:1:2) F. Bangerter, Moe

479. **Secondary Student Teaching.** (8:1:15) F.S.

484. **Philosophy and Principles of Dance.** (2:3:0) F.S. Prerequisites: P.E. 187, 188, 387, 388. Yerg

Study of dance and its cultural background from early to modern times.

485. **History of Dance.** (2:3:2) S.

Theories and philosophies of contemporary dance and dancers and the significance of these ideas in view of their effect on modern educational and cultural uses of dance.

488. **Modern Dance Improvisation.** (1:0:4) F.S.Su. Prerequisite: competency in modern dance. Holbrook

Advanced techniques, composition, improvisation and accompaniment.

489A,B,C. **Workshop in Modern Dance.** (1-2:Arr.:Arr. ea.) (Offered on demand once each year)

571. **Teaching Progression in Team Sports (Men).** (2:1:2) F.

575. **Materials and Methods for Secondary Teachers.** (2:1:2) F. Hirst

601. **Problems in Physical Education.** (3:3:0) F.S. Bangerter

Identification and interpretation of the nine generalized problems in physical education.

610. **Philosophy of Physical Education.** (2:2:0) F.S. Holbrook

Interpretations, beliefs, and concepts underlying the profession of physical education.

631. **Problems in Athletic Conditioning.** (2:2:0) F.S. Prerequisite: Zool. 264. Call, Jensen

Application of scientific principles to problems in athletic conditioning.

635. **Measurement and Evaluation in Physical Education and Health Education.** (3:3:0) S. Prerequisite: P.E. 464 or equivalent. Hart

640. **Curriculum Construction in Physical Education.** (2:2:0) S. Hart

Curriculum problems for elementary, secondary, and college physical education programs.

642. **Mechanical Analysis of Activities.** (2:2:0) S. Bangerter

Analysis of the mechanics of movement in various activities to develop the highest degree of skill.

662. **Administration and Public Relations.** (3:3:0) F. Hartvigsen

Administrative and public relations problems at all school levels: local, state, and national.

663. **Planning Facilities.** (2:2:0) S. E. R. Kimball

Basic planning for facilities for school and community physical education and recreation programs.

670. **History of Physical Education.** (3:3:0) S. Holbrook

History of physical education from ancient civilization to present day.

673. **Physical Education in the Elementary School.** (3:3:0) Su. Holbrook

For the teacher, the principal, and the supervisor. Emphasis on objectives, interrelationships with the curriculum, and the content material used in accomplishing educational results.

692. **Research Methods in Physical Education.** (3:3:0) F. Geddes

694. **Individual Study.** (2:1:1) F.S.

Readings from recently published professional literature.

696. **Seminar in Problems.** (1:1:0) S.

698. **Field Project, Master's Degree.** (1-6:0:Arr.) F.S.Su. Geddes, Holbrook

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su. Geddes, Holbrook

Physical Science

Professor: Compton (coordinator, 258 ESC).

Assistant Professors: Gee, J. Peterson, Wickes, Wight.

An interdisciplinary area only, serving chemistry, geology, mathematics, and physics.

Courses

377. Secondary Teaching Procedures. (3:3:1) F.S. Prerequisite: Tchr. Ed. 301.
For course description and fees, see Tchr. Ed. 377.

479. Secondary Student Teaching. (5-8:1:20-40) F.S. Prerequisite: Phys. Sci. 377 or equivalent.
For course description and fees, see Tchr. Ed. 479.

☐**Teacher Education 493, 494. Independent Readings.** (1-2:1-2:0)

☐**Graduate Education 630. Teaching Mathematics and Science in Secondary Schools.** (2:2:0)

Physics

Professors: J. H. Gardner (chairman, 296 ESC), Eastmond, Fletcher, Hales, A. Hill, McNamara.

Associate Professors: Ballif, Barnett, Decker, Dibble, Dixon, Dudley, A. L. Gardner, M. Hill, Nelson, Vanfleet.

Assistant Professors: Geertsen, Hansen, Harrison, Jensen, Jones, Larson, Miller.

Instructor: Merrill.

The curriculum of the Department of Physics is designed to provide (1) training for students who intend to pursue graduate work in physics or astronomy; (2) preparation for students who intend to enter industrial or governmental service as junior physicists or astronomers; (3) a fundamental background for other physical sciences and engineering; (4) the broadening program required by the biological science, premedical, predental, and nursing programs; (5) training in the subject matter of physics for prospective teachers of the physical sciences; and (6) a perspective of science and introduction to the role of physics in the human quest for understanding.

Students who expect to major in physics, other physical sciences or engineering should begin their study of physics by electing Physics 211 and 212, or, for those having superior high school training in mathematics, Physics 121. Those who expect to study medicine, dentistry, or to major in the biological sciences may elect Physics 201, 202 and 303 although the series beginning with 211 is preferred for those having some background in calculus.

Nonscience students may elect with profit Physics 100, 111, 112 or 300 which emphasize the role of physics as one of the humanities as well as a science; or Physics 127, 137 or 177 which are organized with the object of giving the student an understanding of certain broad features of his physical environment.

Students expecting to use physics as a teaching major or minor or as part of a composite teaching major should refer to the part of this catalog concerned with the subject matter preparation of secondary school teachers. They are also invited to consider the MA-3 program beginning in the junior year which is described below under the corresponding heading.

Majors in Physics

The Physics Department offers programs leading to the Bachelor of Science and Bachelor of Arts degrees. The former is intended for those students who intend to pursue a career in research or in teaching on the college level. The latter is a liberal arts degree and may profitably be elected by those who intend to pursue careers in secondary or junior college teaching, business administration, etc.

Requirements for the B.S. Degree

For a student to graduate with the Bachelor of Science degree he must successfully complete the following courses: Physics 211, 212, 213, 214, 315, 316 (or 121, 122, 221, 222), 321, 322, 341, 342, 386, 387 and six or more credit hours selected from 300, 400, or 500 series in the department; and Math. 141, 142, 243, 244, 314, 434, 436 or their equivalent. Successful completion of these courses implies, for physics majors, attaining a grade of "C" or better.

Requirements for the B.A. Degree

For the B.A. degree, the student must successfully complete the following courses: Physics 211, 212, 213, 214, 315, 316 (or 121, 122, 221, 222), 300, 321, 322, (341 and 386 may be substituted for 322) and Math. 112, 113, 314, 434 and a second approved 14-hour minor outside the department.

Physics-Astronomy Option

Physics majors whose primary interest is astronomy or astrophysics must take the same basic courses listed under the requirements for a physics major. It is recommended that these students take Physics 127 in place of Chem. 112 during the freshman year. They should also include Physics 521, 522 and Physics 527, 528 as part of their program in the senior year.

Suggested Courses for Physics Majors

Language. The student is strongly urged to achieve competence in a foreign language (German, Russian, or French) during his undergraduate career. To expedite this goal, certain courses which do double duty in providing language training and in filling general education requirements are available and should be considered in the elective part of the program.

Religion. It is suggested that the student take advantage of the opportunity to replace four hours of religion credit during the senior year by the four-year accumulation of four hours of credit for devotional assembly.

Mathematics. Students in physics should take mathematics the first semester of the freshman year. The course with which one begins his training in mathematics is determined by the results of the mathematics placement test taken prior to registration. Normally the student will begin with Math. 141, but inadequate mathematics preparation in high school may make it necessary for him to begin with Math. 111. In the latter case he should follow the mathematics sequence listed in parentheses in the following proposed program but he could get back into step through a summer course.

Successful completion of Math. 213, Physics 211 and 213 or their equivalents are prerequisites to all courses above 310.

In certain cases the student may be allowed to substitute the series 111, 112, 113, 321, 322, 323, or 111, 112, 113, 314, 434, 436 for the required math. series.

Proposed Program. The following program is recommended in order for the student to satisfy the general education requirements and at the same time obtain sufficient understanding in undergraduate physics for a career in physics or to make the pursuit of graduate work profitable. For minimum requirements, see above.

Freshman Year	F	S
Math. 141, 142 (111, 141)	4	4
Chem. 111, 112*	5	5
Engl.	3	3
Undergrad. relig.	2	2
P.E.	½	½
Health**	2	
Am. hist.**		3
Dev. assy.	½	½
Total Hours	17	18

Sophomore Year	F	S
Math. 243, 244 (142, 243)	3	3
Physics 211, 213**	4	4
Physics 212, 214**	1	1
Math. 314		3
Undergrad. relig.	2	2
P.E.	½	½
Dev. assy.	½	½
Lang. elective	4	4
Elective (biol. sci.)	3	
Total Hours	18	18

Junior Year

	F	S
Math. 434, 436 (244, 434)	3	3
Physics 315, 341	3	3
Physics 316	1	
Physics 321, 322	4	4
Physics 396		1
Undergrad. relig.	2	2
Dev. assy.	½	½
Electives (soc. sci.)		5
Elective (biol. sci.)	3	
Total Hours	16½	18½

Senior Year

	F	S
Math. 541,* 542*	3	3
Physics 471, 431	3	3
Physics 342, 441	3	5
Physics 551, 552	3	3
Physics 397	2	
Dev. assy.	½	½
(Math. 436)	(3)	
Total Hours	14½ (17½)	14½

*Physics-astronomy majors may substitute Physics 127, 527, 528 for these courses and add Physics 521, 522 to the senior year program.

**Students with superior training in high school mathematics should substitute Physics 121, 122, 223, 224 for these courses and take health and American history during the junior year in place of Physics 315 and 316.

NOTE: This program meets all the requirements for the B.S. degree in physics with a mathematics minor.

Physics Minor

Any course in the Physics Department curriculum which is passed with a grade of "C" or better may be counted toward filling the 14-hour requirement for a minor in physics. A recommended program for the physics minor is Physics 211, 212, 213, 214, 315 and 316.

MA-3 Program for Secondary and Junior College Teachers

A student who intends to become a teacher in secondary education or in a junior college may find it to his advantage to enter the MA-3 program. This is an accelerated program beginning in the junior year designed to enable a student to (1) obtain a B.A. degree in physics with a teaching minor in mathematics at the end of his senior year, (2) obtain an M.A. degree in physics with one additional year's study, and (3) obtain a Utah Secondary School Teaching Certificate. Prerequisites for the program are Math. 111, 112 or their equivalent. The program is designed so that the student may, if he desires, spend one or two years in teaching between his senior and first graduate years. The curriculum for each of these years follows.

Junior Year

	F	S	Su
Math. 213, 314	5	3	
Tchr. Ed. 301	2		
Physics 211, 212 213, 214	5	5	
Phys. Sci. 377		3	
Undergrad. relig.	2	2	
Math. 301, 302	3	3	
Chem. 105, 106			8
Total Hours	17	16	8

Senior Year

	F	S	Su
Physics 315, 316	4		
Math. 334, 371	3		3
Physics 300	3		
Physics 321, 322	4	4	
Physics 396	1		
Phys. Sci. 479 (½ day all sem.)		8	
Tchr. Ed. 310			2
Tchr. Ed. 403		4	
Health 362	2		
Tchr. Ed. 415			2
Undergrad. relig.		2	2
Total Hours	17	18	9

Graduate Year

	F	S	Su
Physics 511	3		
Physics 551, 552	3	3	
Two sem. physics series	3	3	
Minor	3	6	
Physics 699 (thesis)			6
Total Hours	12	12	6

Suggested minors:
Math. 387, 501, 502; Grad. Ed. 640, 642, 644.

Courses

100. Essentials of Physics. (3:3:0) F.S.Su. Home Study also. (G-PS m)
Principles of classical and modern physics as they relate to current concepts of our physical environment.

105, 106. Technical Physics. (3:2:3 ea.) F.S. (G-PS m) Prerequisite: completion of or concurrent registration in Math. 111 or 121.

Introductory course in applied physics with special emphasis on industrial and technical applications. Topics include mechanics, heat, light, and sound.

111, 112. Historical Foundations of Physical Science. (3:3:0 ea.) F.S. (G-PS m)
An introductory course tracing the growth of mechanism from Galileo through Einstein and the growth of atomism from Dalton through Dirac.

121, 122. Principles of Physics. (3:3:0 ea.) F.S. (G-PS m) Prerequisite: completion of or concurrent registration in Math. 141 or equivalent.

Mechanics, elasticity, fluid mechanics, heat, thermodynamics, kinetic theory, oscillation and wave motion, electricity and magnetism.

127. Descriptive Astronomy. (3:3:0) F.S. Home Study also. (G-PS m)
Hansen, McNamara
A nonmathematical presentation of our knowledge of the content and history of the cosmos. Frequent use is made of the observatory and planetarium.

137. Weather and Climate. (3:3:0) F.S.Su. Home Study also. (G-PS m)
A study of the earth's atmosphere and the physical processes responsible for weather phenomena and climate.

177. Physics of Light and Photography. (3:2:3) F.S. Home Study also. (G-PS m)
Hales
An introductory course with emphasis on those aspects of light related to photography.

201, 202. General College Physics. (4:3:3 ea.) F.S. (G-PS m) Prerequisite: Math. 111 or equivalent. Miller

A general course with laboratory for students in premedical, predental, and biological science programs. Topics include mechanics, heat, sound, light, electricity and magnetism.

211, 213. General Physics: Classical. (4:4:0 ea.) F.S.Su. (G-PS m) Prerequisites: Math. 112; completion of or concurrent registration in Math. 213; and for physics, chemistry, and engineering majors, completion of or concurrent registration in Physics 212 or 214. Barnett, Eastmond, A. Gardner

Mechanics, heat, sound, light, electricity, and magnetism for physical science and engineering majors. This course (for Physics 224) is a prerequisite for all specialized courses in physics.

212, 214. General Physics Laboratory. (1:0:3 ea.) F.S. (G-PS m) Prerequisite: completion of or concurrent registration in Physics 211 or 213.
Experimental work to parallel Physics 211 or 213.

221, 222. Principles of Physics. (4:3:3 ea.) F.S. (m) Prerequisites: Math. 142, Physics 122, completion of or concurrent registration in Math. 143 or equivalent.

The electromagnetic field, electromagnetic waves, optics, quantum radiation, spectra, atomic and nuclear structure, radioactivity, nuclear energy, fundamental particles. Laboratory experiments in contemporary physics.

300. **Philosophical Foundations of Modern Physics.** (3:3:0) F.S. (G-PS m) Prerequisite: college level course in chemistry or physics; or consent of instructor. A. Hill
Selected topics in modern physics, e.g. relativity and quantum mechanics, will be briefly developed and examined for their philosophical implications. Some current challenging problems will be explored.

303. **Survey of Atomic and Nuclear Physics.** (3:3:0) S. (m) Prerequisites: Physics 201, 202 or 211, 213. Miller
Primarily for nonphysical science majors. Elementary particle and radiation physics including atomic structure, spectra, X rays, nuclear structure, nuclear processes, and applications.

315. **General Physics: Atomic and Nuclear.** (3:3:0) F.S.Su. (m) M. Hill
Fundamental particles, atomic and molecular structure, Bohr theory, spectra, X rays, quantum effects, special relativity, radioactivity, nuclear forces and nuclear reactions.

316. **Atomic and Nuclear Physics Laboratory.** (1:0:3) F.S.Su. (m) Prerequisite: completion of or concurrent registration in Physics 315. M. Hill, Miller
Required of all physics majors. Experimental work in particle and radiation physics.

321, 322. **Mechanics.** (4:4:0 ea.) F.S. (m) Prerequisite: Math. 314. Dudley
Methods of classical mechanics applied to equilibrium, particle motion, central forces, small oscillations, conservation principles, and rigid body dynamics, with an introduction to Lagrange's equations.

341, 342. **Electricity and Magnetism.** (3:3:0 ea.) F.S. (m) Prerequisite: Math. 314. Jones
Classical theory of electricity and magnetism developed from its experimental foundations. Electrostatics, magnetostatics, currents and their associated fields, circuit theory, and Maxwell's equations.

386. **Advanced Experimental Techniques.** (1:1:2) F.S.
Basic techniques in electrical, optical, thermal, electronics, etc. measurements and instrumentation for contemporary experimental physics.

387. **Advanced Physics Laboratory.** (2:1:3) F.S.
Application of contemporary methods and instruments to the experimental observation and measurement of classical and modern physical phenomena.

391, 392. **Seminar in Current Physics.** (1:1:0 ea.) F.S. Prerequisite: consent of instructor.
For junior physics majors enrolled in the Honors Program.

431. **Thermal Physics.** (3:3:0) S. (m) Prerequisites: Physics 211, 213. Larson
Fundamental principles of thermodynamics with introduction to the concepts of kinetic theory and statistical mechanics for physicists, chemists, and engineers.

441. **Electronics for Physicists.** (5:3:6) S. Prerequisite: Physics 342. Jones
Fundamental concepts of electronics and basic circuitry with emphasis on the tools needed for specialized research in a variety of fields of physics.

471. **Optics and Electromagnetic Theory.** (3:3:0) F. (m) Prerequisites: Physics 342, Math. 334, or consent of instructor. Eastmond
Intermediate treatment of the propagation, reflection, refraction, interference, and diffraction of electromagnetic waves, with introduction to the use of Maxwell's equations and quantum optical phenomena.

497A,B,C. **Introduction to Research.** (1-3:0:2-6 ea.) Arr. (m)

511. Introduction to Theoretical Physics. (3:3:0) Su. Prerequisites: Math. 334, 317, or consent of instructor.

Introduction to basic principles of physics with emphasis on their mathematical formulation. Topics treated vary from year to year.

513A,B,C,D. Special Topics in Contemporary Physics. (1-3:1-3:0 ea.) Arr. Prerequisite: consent of instructor.

Course content varies from year to year. Subject matter will generally be related to recent developments in physics.

521, 522. Celestial Mechanics. (3:3:0 ea.) F.S. Prerequisite: consent of instructor. Hansen

Fundamental principles of celestial mechanics and orbital computations.

527, 528. Introduction to Astrophysics. (3:3:0 ea.) F.S. Prerequisite: consent of instructor. McNamara

Fundamental principles and observational techniques of astrophysics.

536, 537. Space and Planetary Physics. (3:3:0 ea.) F.S. (Offered 1966-67 and alternate years) Prerequisite: consent of instructor. Ballif, Jones

Topics will include solar physics, interplanetary fields, atmospheres of earth and planets.

551. Elements of Quantum Theory. (3:3:0) F. Prerequisites: Physics 315, Math. 317 or equivalents. J. Gardner

Basic course in modern theory of radiation and particle physics for physicists, chemists, and engineers. Topics include elementary treatments of relativity theory, quantum mechanics with spectroscopic applications, quantum statistics, solids.

552. The Atomic Nucleus. (3:3:0) S. Prerequisite: Physics 551. J. Gardner

Basic course in nuclear physics for physicists, chemists, and engineers. Topics include description of nuclear properties, scattering theory, nuclear reactions, elementary theory of the nucleus.

561, 562. Fundamentals of Acoustics. (3:3:0 ea.) F.S. (Offered 1966-67 and alternate years)

Vibrating systems, transmission phenomena, theory of acoustical radiators, and applications of acoustics.

563, 564. Acoustical Measurements. (2:2:0 ea.) F.S. (Offered 1966-67 and alternate years) Prerequisites: completion of or concurrent registration in Physics 561 and 562.

Selected experiments in acoustics.

611, 612. Astrophysics. (3:3:0 ea.) F.S. (Offered 1966-67 and alternate years) Prerequisite: consent of instructor. McNamara

The theory of stellar atmospheres and interstellar matter.

621. Dynamics. (3:3:0) F. Prerequisite: Physics 322. Harrison

Advanced treatment of classical mechanics, including Lagrange's and Hamilton's equations, rigid body motion, and canonical transformations.

623. Dynamics of Continuous Media. (3:3:0) S. (Offered 1966-67 and alternate years) Prerequisite: Physics 621.

The mechanics of systems with an infinite number of degrees of freedom. Topics include elasticity and hydrodynamics.

625. Theory of Relativity. (3:3:0) S. (Offered 1967-68 and alternate years) Prerequisite: Physics 621. Harrison

Fundamentals of special relativity, applications to dynamics and electromagnetism, and introduction to general relativity.

627, 628. Advanced Topics in Astrophysics. (3:3:0 ea.) F.S. (Offered 1967-68 and alternate years) Prerequisite: consent of instructor. McNamara

Internal structure of stars; galactic structure.

631, 632. Statistical Mechanics. (3:3:0 ea.) F.S. Decker

Review of thermodynamics; classical statistical mechanics, quantum statistics, transport theory.

641, 642. Mathematical Theory of Electricity and Magnetism. (3:3:0 ea.) F.S. Prerequisite: Physics 342. Harrison

Advanced electrostatics and magnetostatics; Maxwell's equations and electromagnetic waves; relativistic electrodynamics, radiation theory, interaction of matter with electromagnetic fields.

645, 646. Plasma Physics. (3:3:0 ea.) F.S. (Offered on sufficient demand) Prerequisites: Physics 431, 621, 642. A. Gardner

A study of the plasma state of matter, including a description both in terms of individual particles and in terms of a fluid, with applications.

651, 652. Quantum Mechanics. (3:3:0 ea.) F.S. Prerequisites: Physics 551, 621; Math. 618. Nelson

Nonrelativistic quantum mechanics logically developed with applications.

655, 656. Nuclear Physics. (3:3:0 ea.) (Offered on sufficient demand) Prerequisite: Physics 552. Dixon, Jensen

Fundamental properties of nuclei, nuclear forces, nuclear models, electromagnetic properties of nuclei, particle radioactivity, nuclear reactions, and interaction of radiation with matter.

671. Atomic Spectroscopy. (3:2:3) F. (Offered 1966-67 and alternate years) Prerequisite: Physics 551 or consent of instructor. Eastmond

Observation and analysis of atomic spectra; series, multiplet structure, Zeeman effect; selection rules, transition probabilities, energy levels; atomic structure.

672. Molecular Spectroscopy. (3:2:3) S. (Offered 1966-67 and alternate years) Prerequisite: Physics 671. Eastmond

Analysis of band spectra; molecular rotational, vibrational, and electronic energy levels; determination of molecular structure.

681, 682. Modern Theory of Solid State. (3:3:0 ea.) F.S. Prerequisites: Physics 431, 551. Decker, Vanfleet

An introductory course for students in physics, chemistry and engineering. Physical properties of atomic and molecular systems which are arranged in a regular periodic structure.

691, 692. Seminar. (1:1:0 ea.) F.S.

697. Research. (Arr.) Arr.

699. Research and Thesis for Master's Degree. (6-9:Arr.:Arr.) Arr.

711A,B,C. Advanced Topics in Physics. (1-3:1-3:0 ea.) F.S. Prerequisite: consent of instructor.

Course content varies from year to year. Special topics in theoretical and experimental physics are treated.

751, 752. Advanced Quantum Theory. (3:3:0 ea.) F.S. (Offered 1966-67 and alternate years) Prerequisite: Physics 652 or consent of instructor.

Topics in relativistic quantum mechanics including quantum field theory.

791, 792. Seminar. (1:1:0 ea.) F.S.

797. Research. (Arr.) Arr.

799. Research and Dissertation for Ph.D. Degree. (Arr.) Arr.

Political Science

Professors: Bernhard (chairman, 270 M), Grow, Reeder.

Associate Professors: Mabey, Melville, Slover.

Assistant Professors: Farnsworth, Hart, Hillam, Midgley, Monson, Morrell, Snow, Williams.

Requirements for an Undergraduate Major in Political Science

Students majoring in political science are required to satisfactorily complete thirty credit hours of study distributed as follows:

Required courses: Pol. Sci. 110 and 300 and any two of the following: 111, 150, or 170 (or the experimental course, 200, and 110, 300 and an individually tailored program).

Elective courses: at least one course from each of the following five fields plus additional courses to a minimum total of thirty hours:

1. Political Philosophy and Theory—302, or a combination of 401 and 403 (406, 464, 506 available for advanced study).
2. American Government and Politics—310, 315, 320, 321, 323, 457, 510.
3. Public Administration—330 (531, 532, 533, 535, 536, 537, 538, 539 available for advanced study).
4. Foreign Governments and Politics—350, 352, 355, 356, 357, 358, 456.
5. Public Law—360, 361, 464, 468, 563 or 575.
6. International Relations—370, 375, 572, 575 or 580.

Political science lower division courses should be completed, where possible, by the end of the sophomore year. Students should set up the major program with their adviser.

In satisfying the **American History and Government Requirement** for graduation, the political science major is advised to take both Hist. 120 and 121. If this cannot be arranged, he should take at least one of the following combinations: Pol. Sci. 110 and Hist. 120 or 121, or Pol. Sci. 110 and Econ. 274. Hist. 170 is not recommended for majors.

Requirements for a Minor to Be Selected by Political Science Majors

Students majoring in political science may choose among three alternatives in fulfilling the **minor requirement,** in consultation with their adviser:

a. 14 credit hours in any department in the College of Social Sciences or College of Humanities. Students should consult with their adviser and with the chairman of their chosen minor department on the appropriate courses. If advisable, a minor in a department of another college may be selected.

b. A composite minor emphasizing behavioral and quantitative analysis, also consisting of 14 credit hours (which may not be double counted with general education requirements):

Sociol.-Psych. 350 (3 hours); Stat. 221 and 336 (6 hours); Comput. Sci. 331 or Psych. 570 (3 hours), plus one elective from any of the following—

Anthrop. 432 and 471; Commun. 211 and 535; Geog. 441; Econ. 441; Psych. 357, 450, 555; Math. 101, 105, 108 or 111; Phil. 381; Sociol. 316, 348, 405, 410, 426, 449, 501, 543, 570.

c. A concurrent major or a minor in one of the following programs: Asian Studies, International Relations, Latin American Studies, or Russian Studies.

Requirements for a Minor in Political Science

Students minoring in political science are required to complete satisfactorily fourteen credit hours of study, including 110 and at least two upper division courses.

See the Department of Teacher Education for details on **secondary teaching** programs in political science.

See the Graduate School Catalog for requirements for the **master's degree** in political science.

Courses

105. Current Affairs. (1:1:0) F. S. (G-SS m)
Survey of current events with special attention to historical background and present implication in economics, sociology, politics, and international relations.

110. American Government. (3:3:0) F.S. Home Study also. (G-SS m)
Grow, Hart, Melville, Reeder, Slover, Williams
Origin and growth of federal constitution; constitutional rights of citizens; study of executive, legislative, and judicial departments; and the major critical policy decisions facing government.

111. State and Local Governments. (3:3:0) F.S. (G-SS m) Grow, Snow, Williams
Relation of state to the national government; functions and powers of states; types of municipal government and their growth and operation.

150. Foreign Governments and Politics. (3:3:0) F.S. Home Study also. (G-SS m)
Farnsworth, Mabey, Midgley, Monson, Morrell
General survey of foreign governments and comparative politics.

170. Introduction to International Relations. (3:3:0) F.S. Home Study also. (G-SS m) Farnsworth, Hillam, Monson
Survey of basic forces, practices, and institutions with special attention to foreign policies of major powers and problem areas in international politics.

200. Fundamentals of Government and Politics. (3:3:0) F.S. (Offered experimentally 1966-68) (G-SS m) Prerequisite: consent of instructor.
Introduction to the main processes in government and politics, including American, foreign and international.

300. Research and Writing in Political Science. (3:2:1) F.S.
Sources, materials, and methods of research and writing in political science. Required of all majors in political science. Should be taken sophomore or junior year.

302. Introduction to Political Philosophy. (3:3:0) F.S. (m)
Melville, Midgley, Monson
General historical introduction to the major expressions of political philosophy.

310. Parties and Pressure Groups in the U.S. (3:3:0) F. (m)
Bernhard, Grow, Hart, Williams
Organization and methods of action of American political parties and pressure groups.

315. **Public Opinion and Propaganda in the U.S.** (2:2:0) S. (m) Bernhard, Grow, Hart, Williams
The formulation and determination of public opinion in American politics and government.

320. **American Legislative System.** (3:3:0) S. (m) Bernhard
Structure and organization of congressional and state legislative bodies; nature of business transacted and conflict resolution; influences acting upon such bodies; parliamentary procedures.

321. **Political Behavior.** (3:3:0) F.S. (m) Hart, Midgley
Investigation of psychological and social aspects of politics, including personality factors, the structuring of political beliefs and values, group behavior, leadership, membership, participation, and decision making.

322. **Contemporary Problems.** (2:2:0) F. (m)
Selected topics which involve the formulation of public policy in the areas of economics, sociology, politics, and international relations.

323. **Intergovernmental Relations in the United States.** (3:3:0) S. (m) Snow
Federal-state-local and interstate relations: adjustment and change in our Federal system. A survey of major programs and trends; emphasis on organizational, administrative and fiscal relationships.

330. **Introduction to Public Administration.** (3:3:0) F.S. (m) Grow, Slover, Snow, Williams
Organization and operation of government. Relationship of administration to other branches of government; types of control over administration; central and local government.

350. **Government of the Soviet Union and Eastern Europe.** (3:3:0) F. (m) Mabey, Morrell
Government of the USSR and other eastern European countries; their political institutions and philosophies.

351. **Communist Governments and Politics.** (3:3:0) F.S. (m) Mabey, Morrell
Origin and development of Communist parties and governments in 14 countries and the U.S.A.

352. **Government and Politics of East Asia.** (3:3:0) S. (m) Farnsworth, Hillam
Analysis of traditional Asian governmental institutions in their historical context with emphasis on the structure and dynamics of modern far eastern politics.

355. **Government and Politics of United Kingdom and the Commonwealth.** (3:3:0) F.S. (m) Mabey
Development of the British Constitution; examination of growth of cabinet government; the Crown, Parliament, Civil Service; local and governmental administration; English judicial system; the Commonwealth.

356. **Governments and Politics of South America.** (3:3:0) F. (m)
Discussion of constitutions and political processes of Argentina, Brazil, Chile, Peru. Lesser emphasis placed on Bolivia, Paraguay, Uruguay. Attention focused on sociological and economic factors.

357. **Government and History of Canada.** (3:3:0) S. (m) Grow
Growth and development of Canada and the operation of her government.

358. **Governments and Politics of Southeast Asia.** (3:3:0) (m) Farnsworth, Hillam
Political development of countries in Southeast Asia with special reference to the contemporary scene.

360. Constitutional Law of the U.S. I. (3:3:0) F.S. (m) Prerequisite: Pol. Sci. 110. Reeder, Williams
American federal system.

361. Constitutional Law of the U.S. II. (3:3:0) F.S. (m) Reeder, Williams
Fundamental rights and immunities.

370. Theory of International Politics. (3:3:0) F. (m) Hillam, Monson
Theoretical approaches to international politics and its basic concepts, such as power, interest, decision making, etc.

375. International Organization. (3:3:0) F. (m) Monson
History and structure of international organizations, with particular emphasis on the United Nations organization and its special agencies.

401. Ancient Political Philosophy. (3:3:0) F. (m) Midgley, Monson
The history of political philosophy beginning with the pre-Socratics and ending with Hobbes.

403. Modern Political Philosophy. (3:3:0) S. (m) Midgley, Monson
The history of political philosophy beginning with Hobbes and ending with the recent revival of political philosophy.

406. American Political Thought. (3:3:0) S. Home Study also. (m) Melville
American political and legal ideas from the colonial period to the present, with an analysis of their influence upon development of American history and government.

456. Governments and Politics of Mexico and the Caribbean Area. (3:3:0) S. (m)
Discussion of constitutions and political processes of Mexico, Cuba, Central America (El Salvador, Guatemala, Honduras, Nicaragua, Costa Rica, Panama), Colombia and Venezuela. Attention focused on sociological and economic factors.

457. The Military in Government and Politics. (3:3:0) S. (m) Prerequisite: Pol. Sci. 110. Slover

The military's role, under international and national law, in selected countries in the development of political, economic and social structures during peacetime and wartime.

464. Jurisprudence. (3:3:0) S. (m) Reeder, Midgley
Problem approach to ancient and modern legal philosophies, with special attention given the nature of justice and the relation of law to morality.

468. Anglo-American Legal Institutions. (3:3:0) S. (m) Melville, Reeder
Origins and development of common law and equity, the writ system, court systems, basic legal terms, and the anatomy of a law suit.

498A,B,C. Directed Readings in Political Science. (Honors) (1-2:0:1-2 ea.) F.S. (m)

500. Research and Writing in Public Administration. (3:3:0) F.S. Snow, Williams

Public administration data, forms and procedures in report writing, research patterns, and production of research reports. Designed for students who have not had Pol. Sci. 300 and who need training in research and writing in public administration, or for students who wish to concentrate in public administration.

503. Contemporary Political Philosophy. (3:3:0) Midgley, Monson
Survey of the attack upon political philosophy by political theorists, and the various attempts to revive it by philosophers and theologians.

510. American Political Problems. (2:2:0) F. (m)
Bernhard, Grow, Hart, Williams

Intensive study of selected problems relating to the noninstitutional workings of the American political system.

531. Principles of Public Organization and Management. (3:3:0) S. (m)
Grow, Snow, Williams

Departmental organization of public agencies; organization theory and behavior; communications; authority and control; administrative analysis and survey techniques. Emphasis is given to the public setting.

532. Public Personnel Administration. (3:3:0) F. (m) Grow, Snow, Williams

Treatment of processes, procedures, controls, and problems of personnel and fiscal administration in executive branches of federal, state, and local governments.

533. Budget and Fiscal Administration. (3:3:0) F. (m) Recommended: Acctg. 201.
Snow

The principles involved in governmental budget and fiscal administration. Emphasis is given at national, state, and municipal levels.

534. State Government and Administration. (3:3:0) F. (m) Prerequisite: Pol. Sci. 330.
Snow

Problems and issues in state government administration: The changing role of state government, organizational and administrative innovations to meet new and changing demands.

535. Municipal Government and Administration. (3:3:0) S. (m) Grow

Growth, development, and organization of cities; relationship of cities to other governments; problems and activities of modern cities.

536. City Planning. (3:3:0) S. (m) Recommended: Pol. Sci. 330, Geog. 522, Sociol. 423.

Basic problems and techniques involved in city planning.

537. Public Works and Safety Administration. (3:3:0) F. (m) Recommended: Pol. Sci. 330; any two of Sociol. 380, 383, 386; Psych. 350.

Basic factors underlying the efficient operation of police and fire and public works departments. Sociological and psychological problems involved; organization patterns, public relations, budget, etc.

538. International Project Administration. (3:3:0) (m) Recommended: Pol. Sci. 110, 115, 330; Hist. 120, 121.
Slover, Snow

The administration of United States programs abroad. Problems faced, living conditions, techniques of administration, approaches to education, etc.

539. Comparative Public Administration. (3:3:0) S. (Offered alternate years) (m)
Grow, Snow, Williams

Comparative analysis of various administrative procedures and practices.

563. Administrative Law of the U.S. (3:3:0) F. (m) Reeder

Legal setting for administrative bodies and judicial control of administrative action. Cases in administrative law read and discussed.

572. Foreign Policy of Soviet Union and Eastern Europe. (3:3:0) S. (m)
Mabey, Morrell

Marxist-Leninist concepts of international politics and their practical application including such issues as the Communist International and "peaceful coexistence."

575. International Law. (5:5:0) S. (m) Reeder

Nature and function of international law; recognition, succession, jurisdiction rights, and immunities of states; nationality and jurisdiction over nationals.

580. International Politics of Asia. (3:3:0) S. (m) Recommended: Pol. Sci. 115. Farnsworth, Hillam

International relations of Asia with emphasis on the problems of imperialism, colonialism, nationalism, and communism.

645A,B,C. Graduate Colloquium. (½:1:0 ea.) F.S. Graduate Faculty

Required of all graduate students each semester in residence, in addition to the minimum requirements.

690A,B,C,D. Seminar in Political Theory. (1-3:1-3:0 ea.) Melville, Midgley, Monson

691A,B,C,D. Seminar in Politics. (1-3:1-3:0 ea.) Bernhard, Grow, Hart, Williams

693A,B,C,D. Seminar in Public Administration. (1-3:1-3:0 ea.) Grow, Slover, Snow, Williams

694. Project in Public Administration. (2:0:Arr.)

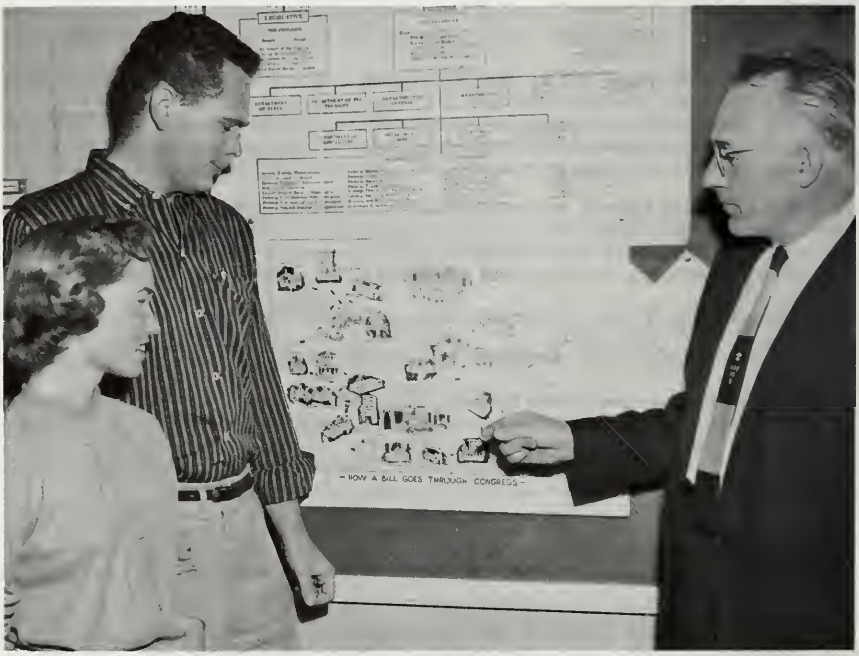
695A,B,C,D. Seminar in Foreign Governments and Comparative Politics. (1-3:1-3:0 ea.) Farnsworth, Hillam, Mabey, Morrell

696A,B,C,D. Seminar in Public Law. (1-3:1-3:0 ea.) Melville, Reeder, Williams

697A,B,C,D. Seminar in International Relations. (1-3:1-3:0 ea.) Farnsworth, Hillam, Mabey, Monson, Morrell, Reeder

698. Directed Readings in Political Science. (1-2:0:1-2) F.S.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.


HOW A BILL GOES THROUGH CONGRESS

Professor and students checking legislative procedure

Psychology

Professors:	Howell (chairman, 1230 SFLC), Allen, Hardy, Moffitt, Robinson.
Associate Professors:	Bennion, Daniels, Smith.
Assistant Professors:	Anderson, Cundick, Jensen, Johnson, Payne, Pedersen, Stimpson.
Instructors:	Budge, Jorgensen, Morrill, Ravsten.
Special Instructors:	Burnham, Merrill.

The study of psychology should be of value to the general student in the following ways: (1) provide him with a scientific understanding, for its own sake, of behavior and experience; (2) develop insights into his own behavior and that of others, useful in meeting everyday problems of life; (3) assist in cultivating more careful habits of thought concerning human behavior; and (4) enhance his appreciation of people.

The field of psychology offers careers in college teaching (and high school to a lesser degree); various counseling services in elementary and secondary schools; clinical service in clinics, institutions, and private practice; various psychological services in business, industry and government; research in basic and applied psychology. Most professional fields of psychology require advanced degrees, but there are a limited number of opportunities for those with bachelor's degrees, such as high school teaching, probation and junior-level social work, employment interviewing and testing, and junior-level psychological testing (psychometry).

The study of psychology also has particular value to students preparing for teaching and counseling of any kind, social work, parenthood, law, medicine, various branches of business, and public administration. Psychology may also be of value in any other specialization concerned with man and his works.

There are two programs for a psychology major: a preprofessional major and a general culture major. The preprofessional major is intended for students who plan to continue with psychology, or certain related fields, as a prospective profession. Students who intend to terminate their formal education with a bachelor's degree would not ordinarily choose this plan.

Preprofessional Major: Those who plan to continue with graduate work in psychology or closely related fields (medicine, counseling, school psychology, psychiatric social work, for example) and who have by the beginning of the junior year an overall grade-point average of 3.00 (with a 3.25 in psychology courses), should choose the preprofessional major. A total of 30 semester hours, including Psych. 111, 360, 365, 370, 374, 378 and one seminar will be required for this major. Courses listed as sociol.-psych. (social psychology) may be used for credit either in sociology or psychology but not in both. Psych. 340 (mental hygiene) does not count in the 30-hour requirement.

General Culture Major: The general culture major is designed for students who plan to terminate their formal education at the bachelor's level or those who anticipate entering an advanced field not closely related to professional psychology. The course requirements for the general culture major consist of 30 semester hours, including Psych. 111, 185, 311 (or 360 and 365), 320 or 321, 357 or 350, 450, 460, and one seminar. Courses listed as sociol-psych. (social psychology) may be used for credit either in sociology or psychology but not in both. Psych. 340 (mental hygiene) does not count in the 30-hour requirement.

Note: Students planning to certify as elementary or secondary school teachers should consult the section of the catalog titled "Teacher Education."

Students majoring in psychology may select a wide range of subjects for a minor field, depending upon their educational and vocational objectives. They are urged to consult with their adviser regarding this choice. Students planning to terminate with a bachelor's degree should choose a minor area which will broaden their employment opportunities. Suggested areas are secretarial work, various branches of business, recreation, and social work.

To fulfill the additional general education requirements for the baccalaureate degree, the preprofessional major is encouraged to take as much work in a foreign language (preferably German, French, or Russian) as possible, and to also take courses in the mathematics, logic, science, and statistics area.

For a minor in psychology, the following program is recommended: Psych. 111, 311, and a minimum of eight additional hours chosen from the undergraduate and 500 series courses which are designated with an (m) as fulfilling the minor requirements.

The following graduate programs are offered: a master's degree in general psychology; a master's degree for school psychologists; a Ph.D. in clinical psychology; and a Ph.D. in social psychology. See the Graduate School Catalog for details on these programs.

As part of the training of graduate students, a psychological clinic is maintained by the Psychology Department for the diagnosis and treatment of behavioral and emotional disorders in children and adults. A limited number of selected individuals (other than University students) will be accepted depending on the training needs of the department.

Courses

111. General Psychology. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Foundation course covering essentials of modern scientific psychology. Prerequisite for most upper division psychology classes.

185. Physiological Psychology. (3:3:0) F. (m) Prerequisite: Psych. 111. Merrill

Examination of the physiological foundations of behavior and their relation to behavior phenomena. Designed as a second course in psychology to follow Psych. 111.

311. Advanced General Psychology. (3:3:0) F.S. (m) Prerequisite: Psych. 111.

Intensive survey of the general field with special emphasis on topics not covered in detail in Psych. 111. Intended for minors or other advanced students not planning to take Psych. 360, 365, and 378.

320. Psychology of Childhood. (2:2:0) F.S. Home Study also. (G-SS m) Prerequisite: Psych. 111. Budge, Cundick, Jensen

Critical presentation of research on physical, mental, emotional, and social development of the child and his interests, values, and motivations. Primarily for majors and minors.

321. Psychology of Adolescence. (2:2:0) F.S. Home Study also. (G-SS m) Prerequisite: Psych. 111. Budge, Cundick, Jensen

Development and maturation during adolescence, with special attention to research methodology. Programs of sex-social adjustment, independence, vocational adjustment, and emotional and social maturing in our society.

322. Psychology of Adult Life. (2:2:0) S. Home Study also. (G-SS m) Prerequisite: Psych. 111.

Physiological, intellectual, personality, and motivational changes associated with adulthood; geriatric and gerontological emphasis.

330. Industrial Psychology. (2:2:0) F.S. Home Study also. (m) Prerequisite: Psych. 111. Smith

Special application of psychology in human relations program for management. Important issues in relation to motivation, morale, safety, efficiency, etc.

336. **Personnel Psychology: Theory and Practice.** (2:2:0) F.S. (m) Prerequisites: Psych. 111 and concurrent registration in Psych. 337. Smith

Employment interviewing techniques; validation of psychological tests, biographical questionnaires.

337. **Practicum in Personnel Psychology.** (2:1:6) F.S. (m) Prerequisites: Psych. 111 and concurrent registration in Psych. 336. Burnham

Supervised experience in testing, job analysis, interviewing, and exposure to current personnel programs now in effect. Lecture will cover new material and discuss practicum experience.

340. **Mental Hygiene.** (2:2:0) F.S. Home Study also. (m) Prerequisite: Psych. 111.

Intended to yield insight into prevention and amelioration of mental and personal difficulties.

350. **(Sociol.-Psych.) Introduction to Social Psychology.** (3:3:0) F.S. Home Study also. (G-SS m) Prerequisite: Psych. 111. or Sociol. 111.

Nature of social influence; socialization; concepts of norm, role status; development of beliefs and attitudes; leadership; and group processes. Applications to prejudice, persuasion, and social control.

357. **(Sociol.-Psych.) Group Relations and Leadership.** (3:2:2) F.S. (m) Prerequisite: Psych. 111 or Sociol. 111.

Designed to help the individual participate effectively in groups and to assist leaders to become efficient in role performance.

360. **Sensation and Perception.** (3:3:0) F.S. Prerequisite: Psych. 111. Allen, Budge

Sensory mechanisms, sensory dimensions and measurement; theories of organization; perception of space, time, self, persons; relationship between perception, learning, thinking, motivation and personality.

362. **Cognitive Processes.** (3:3:0) F.S. Prerequisite: Psych. 111. Daniels

A study of thinking, language and thought, concept formation, memory, and the teaching and learning of strategies for synthesis, analysis, and creative problem solving.

365. **Motivation.** (3:3:0) F.S. Prerequisite: Psych. 111. Hardy

Core course for majors and other advanced students. Theories of motivation; research methods and results; bases of motivation; emotions and motivation; measuring motivation; motivation as related to learning and cognitive processes; and practical implications.

370. **Elementary Psychological Statistics.** (4:4:0) F.S. (m) Prerequisites: Psych. 111, Math. 105 or equivalent.

Introduction to descriptive and inferential statistics. Measures of central tendency, variability, correlation; sampling theory, tests of significance; and reliability and validity.

374. **Experimental Psychology.** (3:1:4) F.S. (m) Prerequisites: Psych. 111, 370 or equivalent. Anderson, Merrill

Psychological methodology and its application to fields of sensation, perception, emotion, learning, motivation and individual differences; conducting and reporting of representative experiments.

378. **Psychological Tests and Measurement.** (3:3:0) F.S. (m) Prerequisites: Psych. 111, 370. Pedersen

Core course for majors, minors, and other advanced students; statistical methodology of assessing and interpreting abilities; tests of abilities and their purposes; and group differences of abilities.

445. **Exceptional Children.** (2:2:0) S. Home Study also. (m) Prerequisite: Psych. 111. Allen, Cundick

Diagnosis of exceptionalities and their psychological significance; gifted, mentally retarded, physically and emotionally handicapped children; and treatment measures. Survey course for students interested in management of children.

450. **Personality Development.** (3:3:0) F.S.Su. (m) Prerequisite: Psych. 111. Daniels, Pedersen

Development and organization of personality structure; interaction of biological, psychological, and cultural determinants; and measurement of personality.

454. **Psychology of Religion.** (2:2:0) S. (m) Prerequisite: Psych. 111. Allen

Classification of religious behavior and experience; sources of religious motivation; religion and the growth process; personality and religious choices; and mental hygiene assets and hazards in religion.

460. **Principles of Learning.** (3:3:0) F.S. (m) Prerequisite: Psych. 111. Anderson, Jensen

A comprehensive study of the principles of learning; representative experiments; types of learning; principles of effective learning; and implications for clinical, educational, and social fields.

478. **Psychology of Individual Differences.** (3:3:0) F.S. Prerequisite: Psych. 111. Jensen

Individual differences in human and infra-human species. Constitutional types, sex, age, and racial characteristics.

491, 492, 493. **Psychology Seminar.** (1:1:0 ea.) F.S.Su. (m)

One seminar required of psychology majors. Reports and discussions of special topics and current psychological literature.

495. **Independent Readings.** (1-2:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

510. **The Psychology of Aesthetics.** (2:2:0) (Offered alternate years) (m) Prerequisite: Psych 111. Daniels

The arts of perceptual stimuli; the nature of artistic creativity; psychological symbolism expressed in the arts; and the artist as a person.

520. **Research and Method in Genetic Psychology.** (3:3:0) S. Cundick

An overview of major research in genetic psychology with emphasis placed on theory, content, and methodology.

530. **Theory and Research in Social Psychology.** (3:3:0) S. Prerequisite: Sociol. 350 or Psych. 350.

A survey, in depth, of current theory and research in social psychology, with emphasis on understanding the individual in his interpersonal interaction.

540. **Abnormal Psychology.** (3:3:2) F.S.Su. (m) Prerequisites: Psych. 111, five additional hours in psychology. Bennion, Howell, Payne

Dynamics of maladjustment; implications for normal behavior; review of major and minor psychological disorders; modern therapeutic procedures; and field work at Utah State Hospital.

550. **Personality Theory.** (3:3:0) S.Su. (m) Prerequisites: Psych. 111, 450, and five additional hours in psychology. Allen, Howell, Moffitt

A critical review of the contemporary theories of personality that have been developed within the framework of major psychological systems.

555. (Sociol.-Psych.) Group Dynamics. (3:3:0) S. (m) Prerequisite: Sociol.-Psych. 350. Dyer, Hardy, Smith, Stimpson

Research and theories in group dynamics. May be used for credit either in psychology or sociology, but not in both.

560. Learning Theory. (3:3:0) F. (m) Prerequisites: Psych. 111, 450, and five additional hours in psychology. Allen, Jensen

A critical review of current theories of learning and persistent problems.

562. Perception and Cognition. (3:3:0) Prerequisites: Psych. 360, or 362, or equivalent; graduate standing or consent of instructor. Allen, Daniels

A study of major theoretical and empirical developments in perception and cognition with emphasis on the interaction of sensory, perceptual, learning, and thinking processes.

565. Motivational Psychology. (3:3:0) F. Prerequisites: Psych. 365 or equivalent; graduate standing or consent of instructor. Daniels, Hardy

Historical development of motivational psychology; theoretical and empirical overview of the field; recent trends and current issues. Role of animal studies; methodological problems.

570. Computer Use in Behavioral Sciences. (3:3:6) F.S. Prerequisite: Psych. 370 or equivalent. Carlson

The use of electronic digital computers in the behavioral sciences.

574. Advanced Experimental Psychology. (2:1:5) S. (m) Prerequisites: Psych. 111, 374 or equivalent. Allen, Anderson

Principles of instrumentation; varieties of experimental designs; and nature of experimental controls. Gives experience in planning, conducting, and reporting original exploratory experiments.

580. Comparative Psychology. (3:3:0) S. (m) Prerequisite: Psych. 111. Anderson

Survey of methods and results of research on animal learning, innate behavior, motivation, individual differences, social behavior, and abnormal behavior; correlation of structure with function

585. Advanced Physiological Psychology. (3:3:0) F. (m) Prerequisite: Psych. 111. Anderson

Critical study of physiological processes and psychological functions; physiological mechanisms underlying behavioral processes, including sensation, emotion, sleep and activity, motivation, and learning.

598. Independent Research. (1-3:0:2-6) F.S.

610. History and Systems of Psychology. (3:3:0) S. Prerequisite: graduate standing.

A survey of the origins and development of modern psychology including consideration of the schools and theoretical systems which have emerged up to the present day.

620. Advanced Genetic Psychology. (3:3:0) (Offered alternate years) Prerequisite: Psych. 520. Cundick

A critical consideration within the developmental framework of factors affecting socialization, intelligence, motor development, language processes, and other important behavioral variables.

626. Mental Deficiency. (2:2:0) F. Prerequisite: Psych. 378 or equivalent. Allen

628. Psychology of the Physically Handicapped. (2:2:0) F. (Offered alternate years) Prerequisite: Psych. 378.

630. Attitude Change. (3:3:0) F. Prerequisite: graduate standing or consent of instructor.

An examination of various theoretical approaches to the study of attitude development, change, and assessment, including a focus on both individual and mass persuasion.

640. Individual Test Practice. (5:3:8) F.S.Su. Prerequisites: Psych. 378 or Grad. Ed. 645 and consent of instructor. Bennion, Cundick, Howell

642. Special Diagnostic Tests. (2:0:6) S. Prerequisite: Psych. 640. Bennion

645. Professional Problems in Psychology. (3:3:0) S. Prerequisite: major or minor in psychology. Howell

651. Problems in Psychopathology. (2:2:0) S. Prerequisites: Psych. 540 and consent of instructor. Bennion, Howell

654. Dynamics of Religious Behavior. (3:3:0) Prerequisite: Psych 111. Allen

662. Complex Thought Processes. (3:3:0) S. Prerequisite: Psych. 360. Daniels

665. Human Motivation. (3:3:0) F.S. Prerequisites: Psych. 365 or equivalent; graduate standing in psychology or allied discipline. Hardy

670. Advanced Statistics I. (3:3:0) F. Prerequisite: Psych. 370. Pedersen, Smith

671. Advanced Statistics II. (3:3:0) S. Prerequisite: Psych. 670. Pedersen

672. Psychological Scaling. (3:3:0) S. (Offered alternate years) Prerequisite: Psych. 670. Pedersen

Scaling theory and methodology, with emphasis upon measurement in psychophysics and differential psychology.

673. Multivariate Analysis in Psychology. (3:3:0) S. (Offered alternate years) Prerequisite: Psych. 670. Pedersen

The principal descriptive statistics used in the analysis of multiple measurements: factor analysis, canonical correlation, multivariate analysis of variance and covariance, and multiple discriminant analysis.

675. Personality Dynamics. (3:3:0) F. Prerequisites: undergraduate core courses and consent of instructor. Moffitt, Howell

678. Measurement Theory. (3:3:0) S. Pedersen

680. Introduction to Psychotherapy. (3:3:0) S. Prerequisites: undergraduate core courses and consent of instructor. Bennion, Robinson

690. Seminar: Research Problems. (2:2:0) F.

695. Independent Readings. (1-2:Arr.:Arr.) F.S.Su.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

730. The Consultative Process. (3:2:2) (Offered alternate years) Prerequisite: Psych. 357.

Nature of the consultative relationship. Essential elements involved in consultation, forces operating in consultation, relationship, developing effective strategy for consultation.

740. Introduction to Projective Techniques. (3:2:3) F. Prerequisites: Psych. 550 and 640. Bennion, Robinson

741. Rorschach Test Practice. (3:1:8) S. Prerequisite: Psych. 740. Bennion, Howell

743. Practicum: Diagnostic Testing. (2:0:6) F.S. Prerequisite: Psych. 741. Bennion, Howell, Payne

747. Internship in Clinical Testing. (2-4:1:5-11) F.S.Su. Prerequisite: Psych. 743. Bennion, Howell

748. Internship in Clinical Testing. (2-4:1:5-11) F.S.Su. Prerequisite: Psych. 747. Bennion, Howell

Continuation of Psych. 747.

750,751,752,753. Hospital Internship. (0:0:32 ea.)

757. (Sociol.-Psych.) Practicum in Group Development. (3:1:4) Prerequisites: graduate standing in psychology or sociology; Sociol.-Psych. 357, 555, consent of instructor.

780. Individual Psychotherapy: Practicum. (3:1:8) F.Su. Prerequisite: Psych. 680. Bennion, Howell

781. Individual Psychotherapy: Practicum. (3:1:8) S. Bennion, Howell

Continuation of Psych. 780.

782. Group Therapy: Theory and Practice. (3:1:8) S. Prerequisite: Psych. 680. Howell

783. Play Therapy: Theory and Practice. (3:3:3) S. Prerequisites: undergraduate core courses and consent of instructor.

790A,B,C. Seminar in Genetic Psychology. (2:2:0 ea.) Prerequisite: consent of instructor. Cundick

791A,B,C. Seminar: Personality. (2:2:0 ea.) Prerequisite: consent of instructor.

792A,B,C. Seminar: Social Psychology. (2:2:0 ea.) Prerequisites: consent of instructor, Sociol.-Psych. 350. Smith, Stimpson

793A,B,C. Seminar: Perception and Cognition. (2:2:0 ea.) Prerequisite: consent of instructor.

794A,B,C. Seminar: Motivation. (2:2:0 ea.) Prerequisite: consent of instructor. Hardy, Daniels

Consideration of selected topics in motivation.

797, 798. Independent Research. (1-4:0:3-12 ea.) F.S. Prerequisite: consent of instructor.

799. Ph.D. Dissertation. (Arr.) F.S.Su.

Administering a psychological test as a learning device

Recreation Education

Professors: I. Heaton (chairman, 273-C RB), Hartvigsen.

Associate Professors: C. Jensen, Packer.

Assistant Professors: Call, Hafen, A. Heaton, Naylor.

Instructors: deHoyos, Goodwin, Hansen, M. Jensen, Olsen.

A student interested in this field may complete courses for a recreation major, a minor, or a composite major. He may also take specified recreation courses to fill certain general education requirements, and he may register for recreation courses on an elective basis.

Recreation Education Major

See the department chairman for course requirements. See the Teacher Education Section of the catalog for the requirements for certification.

Recreation Education Minor

Students minoring in recreation education should take the following courses: Rec. Ed. 123, 301, 337, 371, 387, 388, 407, and 505.

Those recreation education majors who minor in horticulture should take Hort. 103, 317, 318, 319, and 430.

Seasonal Intramural Participation

Students are encouraged to participate in the following intramural activities on a noncredit basis. These activities are conducted afternoons, evenings, and on Saturdays.

Autumn	Winter	Spring
Badminton	Basketball	Archery
Cross country run (Turkey Trot)	Bowling	Badminton
Flag football	Checkers	Bicycle race
Golf	Chess	Golf
Handball	Fencing	Handball
Table tennis	Gymnastics	Horseshoes
Tennis	Ice skating	Softball
Volleyball	Paddleball	Swimming
Battle of the Beef	Skiing	Table tennis
Water basketball	Table tennis	Tennis
Swimming	Wrestling	Track and field
		Diving

Courses

85, 86. Precision Dance Drill. (0:0:3 ea.) F.S. Gibb

123. Introduction to Outdoor Recreation. (1:0:3) F.S. (m) Hafen

301. **Introduction to Recreation.** (2:2:0) F.S.Su. (m) Hafen

337. **Philosophy of Recreation.** (2:2:0) F.S.Su. Home Study also. (G-SS m)

371. **Planning for Family and Neighborhood Recreation.** (2:2:0) F.S.Su. Home Study also. (m) A. Heaton

387. **Planning for Social Recreation.** (2:2:0) F.S.Su. Home Study also. (m) A. Heaton

388. **Leadership in Dance.** (2:2:0) F.S.Su. (m)
Designed to give experience and training in dance programs for community, school, and particularly church recreation leaders.

407. **Administration of Playgrounds and Community Centers.** (3:3:0) F.S.Su. Hafen

410. **Problems and Trends in Outdoor Recreation.** (2:2:0) S.Su. (m) C. Jensen

479. **Directed Leadership in Recreation.** (4-8:1:20-40) F.S.Su. Prerequisite: consent of department chairman. Hafen
Supervised experience in public and/or private recreational programs.

502. **Camping Workshop.** (2:2:4) Su. (m) Fee of $10.00 required. Packer
Featuring training and preparations for a week of laboratory experience in a primitive area.

503. **Administration of School and Community Camps.** (2:2:0) S. (m) Hafen
Objectives and problems involved in establishing community and school camps. Best practices dealing with location, safety, health, and program of activity are thoroughly analyzed.

505. **Administration of Community Recreation.** (3:3:0) F.S.Su. (m) I. Heaton
Problems peculiar to the organization and administration of a community recreation program including objectives, legal aspects, facilities, personnel, activities, budgeting and public relations.

570. **Recreation for the Ill and Handicapped.** (2:2:0) F.Su. Call

583. **Workshop in Recreational Dance.** (2:2:0) F.S.Su. A. Heaton

609. **The Recreation Program.** (2:2:0) F.Su. I. Heaton

691. **Graduate Seminar.** (0:1:1) F.S.Su. I. Heaton

692. **Research Methods in Recreation.** (3:3:0) F.S.Su. I. Heaton

694. **Seminar in Readings.** (2:2:0) F.S.Su. Hartvigsen

695. **Seminar in Community-School Recreation.** (2:2:0) S.Su. I. Heaton

696. **Seminar in Problems in Recreation.** (1:1:0) S.Su. I. Heaton

698. **Field Projects.** (1-4:2-5:0) F.S.Su. I. Heaton

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su. I. Heaton

See the Recreation Education Department office for courses from other departments which count in recreation.

Professors: Riddle (chairman, 123 S), R. L. Anderson, Andrus, Barron, Belnap, Clark, Done, Doxey, Ludlow, Madsen, Nibley, Rich, Sperry, Yarn.

Associate Professors: Backman, Cowan, Horsley, Larson, Patch, Palmer, Pearson, Turner.

Assistant Professors: Berrett, Bowen, M. Petersen, H. D. Peterson.

The Department of Graduate Studies in Religious Instruction has three programs in which master's and doctor's degrees may be obtained. These programs are Bible and Modern Scripture, History of Religion, and Religious Education. The requirements for each of these degrees are to be found in the **Graduate School Catalog.**

Courses

(Note: Courses where the semester is not designated are specialized offerings given on demand.)

501. **Analysis of the Old Testament: The Pentateuch and Historical Books.** (3:3:0) F.Su. Sperry

502. **Analysis of the Old Testament: Prophetic Books.** (2:2:0) S.Su. Sperry

503. **Analysis of the Old Testament: Poetic and Wisdom Literature.** (2:2:0) S.Su. Sperry

510. **The Gospels.** (2:2:0) F.Su. R. L. Anderson, Sperry, Turner

511. **Paul's Life and Letters.** (2:2:0) F.Su. R. L. Anderson, Sperry, Turner

512. **The General Epistles and the Apocalypse.** (2:2:0) S.Su. R. L. Anderson, Sperry, Turner

513. **New Testament Times.** (2:2:0) S.Su. R. L. Anderson

527. **History and Doctrines of the Pearl of Great Price.** (3:3:0) F.Su. Andrus, Clark

530. **L.D.S. Theology.** (2:2:0) F.Su. Riddle, Turner

541. **Documents of L.D.S. Church History (1820-1839).** (3:3:0) F.Su. Andrus, Backman, Clark, Larson, Rich

542. **Documents of L.D.S. Church History (1839-1850).** (3:3:0) S.Su. Andrus, Backman, Clark, Larson, Rich

543. **Documents of L.D.S. Church History (1850-1900).** (3:3:0) F.Su. Allen, Larson

544. **Documents of L.D.S. Church History (1900 to present).** (3:3:0) Arr. Cowan

546. **Social, Economic, and Political Thought of Joseph Smith.** (2:2:0) Arr. Andrus

551. **The Primitive Church.** (2:2:0) F. Nibley

552. **Christianity in the Second and Third Centuries.** (2:2:0) S. Nibley

554. Martin Luther, Forerunner of the Restoration. (2:2:0) Arr. Horsley

555. Comparative World Religions. (2:2:0) Arr. Palmer

556. Comparative World Religions. (2:2:0) Arr. Palmer

557. Religions of the Ancient Near East. (2:2:0) F. Nibley

558. Christian Rites and Liturgy. (2:2:0) Arr. Nibley

559. History of Christianity in Asia. (2:2:0) F. Palmer

570, 571. Methods of Teaching Religion in Secondary Schools. (2:5:0 ea.) Su. W. E. Berrett

593, 594. Hebrew Grammar and Selected Readings. (3:3:0 ea.) F.S. Sperry

601. History of the Hebrews. (3:3:0) F. Sperry

604. The Literature of the Old Testament. (2:2:0) S. Sperry

605. Canon and Text of the Old Testament. (2:2:0) F. Sperry

606. The Apocrypha and Pseudepigrapha. (2:2:0) S. Sperry

608. Cultural and Religious Patterns of the Ancient Near East. (2:2:0) S. Sperry

610. Early Christian Literature. (2:2:0) F. R. L. Anderson

611. Formation of the New Testament: Text and Canon. (2:2:0) Arr. Sperry

612. Textual Criticism of the New Testament. (2:2:0) Arr. R. L. Anderson

621. Analysis of the Book of Mormon. (Doctrinal) (3:3:0) F.Su. Ludlow, Sperry

622. Analysis of the Book of Mormon. (External Evidence) (3:3:0) S.Su. Ludlow, Sperry

624. Analysis of the Doctrine and Covenants. (3:3:0) F.Su. Andrus, Doxey

625. Analysis of the Doctrine and Covenants. (3:3:0) S.Su. Andrus, Doxey

627. Seminar: Pearl of Great Price. (2:2:0) S. Andrus, Doxey

641. Special Problems in L.D.S. Church History. (3:3:0) Arr. Andrus, Backman, Larson, Rich

645. Historical Development of L.D.S. Doctrine and Practices. (3:3:0) Arr. Andrus, Backman, Larson, Rich

653. History of the Papacy. (2:2:0) F. Horsley

654. Reformation and Counter-Reformation. (2:2:0) S. Horsley

658. Comparative Studies in American Religions. (3:3:0) F.S. Backman

659. American Religious Thought. (2:2:0) Arr.

660. Seminar in History of Asian Religion. (2:2:0) S. Palmer

670. Survey of Religious Education. (2:2:0) S. Belnap

671. Curriculum of Religion in Secondary Schools. (2:5:0) Su. W. E. Berrett

672. Religious Curriculum Building for Secondary Schools. (2:5:0) Su. Prerequisite: Grad. Relig. 671. W. E. Berrett

673, 674. Methods of Teaching Religion in College. (2:5:0 ea.) Su. W. E. Berrett

675. Curriculum of Religion in College. (2:5:0) Su. W. E. Berrett

676. **Religious Curriculum Building for Colleges.** (2:5:0) Su. Prerequisite: Grad. Relig. 675. W. E. Berrett

677. **Problems of Teaching Religion.** (1:3:0) Arr. W. E. Berrett

680. **Philosophic Problems and Religious Instruction.** (1:3:0) Su. Riddle, Yarn

690. **Studies in the Hebrew Old Testament.** (3:3:0) Arr. Prerequisite: two years of Hebrew or consent of instructor. Sperry

691. **Studies in Hebrew.** (3:3:0) Arr. Prerequisite: Grad. Relig. 690. Sperry

693, 694. **Biblical Aramaic and the Targums.** (2:2:0 ea.) Arr. Prerequisite: at least one year of Biblical Hebrew.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) Arr.

709. **Seminar: Old Testament.** (2:2:0) Arr. Sperry

710. **Seminar: New Testament.** (2:2:0) Arr. R. L. Anderson

711. **Readings in Greek: The Gospel and Acts.** (3:3:0) Arr. Prerequisite: one year of Greek or consent of instructor. R. L. Anderson, Nibley

712. **Readings in Greek: Paul's Letters.** (3:3:0) Arr. Prerequisite: one year of Greek or consent of instructor. R. L. Anderson, Nibley

713. **Readings in Greek: General Epistles and the Apocalypse.** (3:3:0) Arr. Prerequisite: one year of Greek or consent of instructor. R. L. Anderson, Nibley

718. **Readings in Old Testament Studies.** (1-2:Arr.:0) (Offered on demand) Prerequisites: Grad. Relig. 501, 502, 503. Sperry

Individual study in the area of Old Testament scholarship.

721. **Seminar: Book of Mormon.** (2:2:0) Arr. Ludlow, Sperry

724. **Seminar: Doctrine and Covenants.** (2:2:0) Arr. Andrus, Doxey

728. **Readings in Modern Scripture.** (1-2:Arr.:Arr.) Arr. Andrus

738. **Readings in New Testament.** (1-2:Arr.:0) (Offered on demand) Prerequisites: Grad. Relig. 510, 511, 512. Anderson

Individual study in the area of New Testament scholarship.

748. **Readings in L.D.S. Church History.** (1-2:1-2:0) Arr. Andrus, Backman, Larson, Rich

755. **Seminar: History of Religion.** (2:2:0) F.S.Su. Arr. Andrus, Horsley, Larson, Palmer, Rich

758. **Readings in Christian History.** (1-2:1-2:0) Arr. Nibley

759. **Readings in the History of World Religions.** (1-2:1-2:0) Arr. Nibley

791. **Syriac.** (5:5:0) Arr. Prerequisite: two years Biblical Hebrew or one year Aramaic. Sperry

792. **Syriac.** (3:3:0) Arr. Prerequisite: Grad. Relig. 791. Sperry

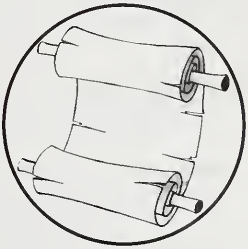
793, 794. **Akkadian.** (2:2:0 ea.) Arr. Prerequisite: two years Biblical Hebrew. Sperry

797, 798. **Ugaritic.** (3:3:0 ea.) Arr. Prerequisite: two years Biblical Hebrew.

The alphabet, vocabulary, and grammar of the language of the Ras Shamra tablets. Valuable for its parallels to Biblical Hebrew.

799. **Doctoral Dissertation.** (Arr.) Arr.

Religious Instruction — Undergraduate Studies



Professor:	Doxey (chairman, 122 S).
Associate Professor:	Bankhead.
Assistant Professors:	W. K. Andersen, Bentley, L. Berrett, Hartshorn, Parsons, M. Petersen, D. Peterson, Rasmussen, Ricks.
Instructors:	Cook, Meservy, Nielsen, Stevenson, Wright.
Special Instructor:	Pratt.

Courses in the Department of Undergraduate Studies in Religious Instruction are offered to help students meet the religion requirements of the University. An undergraduate major or minor is not offered in this department. For further information on religion requirements, see listing of general education requirements.

Courses

121, 122. **Introduction to the Book of Mormon and Its Teachings.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R)

Consideration of origin, content, and teachings of the Book of Mormon. (Returned missionaries and upper division transfer students may have the option of taking Undergrad. Relig. 421, 422, History and Teachings of the Book of Mormon in lieu of Undergrad. Relig. 121, 122.)

211. **Introduction to the New Testament: Jesus and the Apostles.** (2:2:0) F.S.Su. Home Study also. (G-R)

The Gospels and part of the book of Acts.

212. **Introduction to the New Testament: Paul and the Early Church.** (2:2:0) F.S.Su. Home Study also. (G-R)

Paul and his letters and the literature of the early church.

230, 231. **The Gospel in Principle and Practice.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R)

A consideration of the basic principles of the gospel of Jesus Christ in the light of the practical needs and problems of today's youth.

232, 233. **Missionary Approach to the Gospel.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Bankhead, Ludlow, Pearson, Ricks

Recommended for students contemplating an L.D.S. mission. Concerned with procedures used in explaining the restored gospel of Jesus Christ to friends and investigators.

234, 235. **Missionary Approach to the Gospel in French.** (2:2:0 ea.) F.S. (G-R) Prerequisite: one year of French or equivalent.

Consideration of the doctrines, scriptures, and techniques of effective missionary work for the L.D.S. Church.

236, 237. **Missionary Approach to the Gospel in German.** (2:2:0 ea.) F.S. (G-R) Prerequisite: one year of German or equivalent.

Consideration of the doctrines, scriptures, and techniques of effective missionary work for the L.D.S. Church.

238, 239. **Missionary Approach to the Gospel in Spanish.** (2:2:0 ea.) F.S. (G-R) Prerequisite: one year of Spanish or equivalent.

Consideration of the doctrines, scriptures, and techniques of effective missionary work for the L.D.S. Church.

240. **Church History.** (1-2:Arr.:Arr.) Su.

Limited to participants in the B.Y.U. Travel-Study Program. The growth of the Church from the New York period to the westward migration.

241, 242. **Latter-day Saint History.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R)

A chronological study of Church history and doctrine—241: through the life of Joseph Smith (1844); 242: from 1844 to the present.

261. **Introduction to Genealogy I.** (2:2:0) F.S.Su. Home Study also. (G-R) Pratt, Stevenson, Wright

An introductory course in basic genealogical concepts, doctrinal background, essential record sources, modern methods of research, numerous genealogical forms and their uses, successful correspondence, writing biographies and autobiographies, and introduction to the use of the Genealogical Society Library, and one's book of remembrance.

262. **Introduction to Genealogy II.** (2:2:0) F.S.Su. Home Study also. (G-R) Prerequisite: Undergrad. Relig. 261. Pratt, Stevenson, Wright

A survey course in methods of research, time-saving indexes, filing systems, wise use of various records, extending the personal pedigree, correspondence, systems, genealogical uses of electronic computers, compiling and publishing family histories, making the family organization click, analysis of research, and other genealogical problems. (For additional courses in genealogy, refer to the Genealogy Research Section of catalog.)

301, 302. **Introduction to the Old Testament and Its Teachings.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Done, Hartshorn, Meservy, Rasmussen

Course 301 is a brief introduction to the structure of the Old Testament and study of its great teachings, Genesis to I Kings 11. Course 302 considers I Kings 12 to Malachi.

324, 325. **The Doctrine and Covenants.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Andrus, Bowen, Cowan, Doxey, Nielsen, M. Petersen

Origin and contents of the Doctrine and Covenants. Course 324 gives a brief discussion of the history of the Doctrine and Covenants considering study of Sections 1 to 70. Course 325 considers Sections 71 through 136.

327. **Introduction to the Pearl of Great Price.** (2:2:0) F.S.Su. Home Study also. (G-R) W. K. Andersen, Andrus, Clark, D. Peterson

Origin and content of the Pearl of Great Price.

331, 332. **Analysis of L.D.S. Teachings.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) W. Anderson, L. Berrett, Cowan, Doxey, Turner

Distinctive doctrines and principles of the restored gospel of Jesus Christ.

365. **Applying Gospel Principles in Scouting.** (2:2:0) F.S. Home Study also. (G-R) Packer

Deals with the role of scouting in the L.D.S. Church and how gospel principles may be applied in that program.

371. **Teaching the Scriptures.** (2:2:0) F.S. Prerequisite: consent of instructor.

Designed for prospective seminary teachers.

401. **Israel's Prophets.** (2:2:0) F.S.Su. (G-R) Recommended: Undergrad. Relig. 301 and 302. Done, Meservy, Rasmussen

The messages of the great "writing prophets" and their value in their time and ours.

411. **Life and Teachings of Jesus.** (2:2:0) F.S.Su. Home Study also. (G-R)
R. L. Anderson, Bentley, Patch, Turner
The teachings of Jesus Christ and the major events of His life.

412. **Paul and the Apostolic Church.** (2:2:0) F.S.Su. (G-R)
R. L. Anderson, Bentley, Patch, Turner
The books in the New Testament except the four gospels with emphasis upon Paul's letters.

421, 422. **History and Teachings of the Book of Mormon.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R) Barron, Ludlow, Nielsen, Ricks, Turner

Selected problems and teachings of Nephite sacred scripture. (Returned missionaries and upper division transfer students may have the option of taking Undergrad. Relig. 421, 422, History and Teachings of the Book of Mormon, in lieu of Undergrad. Relig. 121, 122.)

435. **Mormonism and Modern Scientific Thought.** (2:2:0) F.S.Su. (G-R) Nielsen
A consideration of significant theological-philosophical concepts in Mormonism as they relate to certain challenging areas of modern scientific assumption involving God, man, and the universe.

438. **Your Religious Problems.** (2:2:0) F.S.Su. (G-R) Belnap
Consideration of problems pertaining to the individual student.

441, 442. **History and Doctrine of the Church.** (3:3:0 ea.) F.S.Su. Home Study also. (G-R) Barron, L. Berrett, Larson, Rich

An intensive, interpretive examination of the history of the Church—441: to the Utah period. Readings include Vol. I, II, III of Roberts' Comprehensive History of the Church; 442: from the beginning of the Utah period to the present. Readings include Vol. IV, V, VI of Roberts' history.

451. **Christian History through the 15th Century.** (2:2:0) F.S.Su. (G-R) Horsley

452. **Christian History after the 15th Century.** (2:2:0) F.S.Su. (G-R) Horsley

453. **World Religions.** (2:2:0) F.S.Su. (G-R) Horsley, Palmer

454. **American Religions and the Rise of Mormonism.** (2:2:0) F.S.Su. Home Study also. (G-R) Backman

460. **Priesthood, Church Government, and Welfare.** (2:2:0) F.S.Su. Home Study also. (G-R) W. K. Andersen, Doxey

Powers, authority, and functions of the priesthood and its role in Church government are considered in addition to the major historical, economic, and spiritual aspects of the L.D.S. Welfare Program.

Russian Studies

Associate Professor: Melvin P. Mabey, coordinator, (274 M)

Committee Members: Don V. Gubler and Peter Lysenko—Russian Language, Edwin B. Morrell—Political Science, Richard D. Poll—History, Elliott Tuttle—Geography, Richard B. Wirthlin—Economics.

The Russian Studies Program is an interdisciplinary area program in the College of Social Sciences which provides two majors or a major and minor combination leading to the B.A. degree.

The program is designed to prepare students for careers and advanced study requiring a broad understanding of Russia and of the Soviet Union. Students in Russian Studies combine the depth of a major in economics, geography, history, political science, or Russian language and literature, with the breadth of integrated study concerning Soviet Russia provided by several disciplines. Majors in other than the above disciplines also may take the Russian studies major concurrently. Russian area specialists who also have a regular professional or academic skill find opportunities for employment by United States domestic and foreign government agencies, by international organizations, and by private business firms dealing with the USSR. For those students going immediately into graduate study and teaching, the breadth in Russian area study combined with a regular major will prove equally advantageous. Students may enter the program only with the permission of the coordinator and should register each semester thereafter under his direction.

Requirements for a Major:

A total of 28 hours (in addition to a regular major and 12 hours of basic Russian language instruction equivalent to the bachelor's-degree requirement) divided as follows:

1. Core courses on Russian and Soviet economics, geography, history, government and politics, foreign relations, and literature (starred in list below) from each of four fields outside the regular major .... 14 hours
2. Other courses dealing more generally with Russia and the Soviet Union (any in the list below) outside the regular major including for non-language majors eight hours of intermediate Russian language study. 14 hours

Requirements for a Minor:

A total of 14 hours (in addition to a regular major and 12 hours of basic Russian language instruction equivalent to the bachelor's degree requirement) divided as follows:

1. Core courses on Russian and Soviet economics, geography, history, government and politics, foreign policy, and literature (starred in list below) from each of the fields outside the regular major .... 8 hours

2. Other courses dealing more generally with Russia and the Soviet Union (any in the list below) outside the regular major including for nonlanguage majors three hours of intermediate Russian language study 6 hours

Economics		**Hours**
111	Introduction to Economic Principles and Problems	3
112	Introduction to Economic Principles and Problems	3
241	Comparative Economic Systems	3
311	Intermediate Economic Analysis	3
312	Intermediate Economic Analysis	3
*430	Economic Development	3
441	Advanced Comparative Economic Systems	3
590	Advanced Economic Problems	1-2
Geography		
101	Introduction to Geography	3
or		
120	Geography and World Affairs	3
441	Political Geography	3
490	Directed Readings	1
*562	USSR and Its Satellites	2
History		
111	World Civilization II	3
*330	Russia Before 1900	3
*331	Russia Since 1900	3
498	Directed Readings	1-2
Political Science		
150	Foreign Governments	3
170	International Relations	3
*350	Government of the Soviet Union and Eastern Europe	3
351	Communist Governments and Politics	3
498A,B,C,D.	Directed Readings (Honors)	1-2
*572	Foreign Policy of Soviet Union and Eastern Europe	2
Russian Language and Literature		
101	First Year Russian Grammar and Composition	5
102	First Year Russian Grammar and Composition	5
201	Intermediate Russian Reading and Conversation	5
301	Selected Readings	3
321	Advanced Grammar and Composition	3
*441	Survey of Russian Literature to 1900	3
*442	Survey of Russian Literature to 1900	3
*443	Russian Literature of the 20th Century	3
*444	Russian Literature of the 20th Century	3

Sociology

Professors: Symons (chairman, 1216A SFLC), Ballif, Bradford, Christiansen, Dyer, Larsen, Smith.

Associate Professors: Fitzgerald, Payne, Peterson.

Assistant Professor: Duke.

Sociology is the scientific study of human relationships and interaction. Attention is given to the social systems which are thus developed and to the norms, roles, statuses, institutions, knowledge, values, etc. (culture), which are related thereto, including the relationship of these factors to conditions of social stability and instability. Specific application of sociological concepts is made to major social units such as familial, peer, religious, educational, occupational, political, medical, racial, and ethnic groups.

A sociology major is necessary for students planning to become professional sociologists: experts who will do teaching, research, consulting, etc., in the field. Sociology is also basic preprofessional preparation for those with occupational services goals such as:

Social work
School teaching
General counseling
Social science research
Recreation
Professional scouting
Red Cross work
Community planning
Industrial relations
Governmental service
Crime control

By combining a sociology major with a teaching certificate (see Teacher Education Department), occupational services goals, and/or preprofessional social work offering, one can gain a two- or three-way employment potential. Especially are the openings in the preprofessional social work area currently numerous and inviting.

The Department of Sociology gives the Bachelor of Science degree. Beyond the general education requirement, the student may elect to fill the 1962 requirement in the language or the science areas.

Requirements for a Major

Majors in the department are required to take Sociol. 111, 112, 220A or B, 397, 404 (unless moving toward preprofessional social work), 405, 491, and to present total sociology credit of 30 hours or more. A maximum of 6 of the 30 hours may be chosen from a selected list of courses in other departments, with consent of the departmental adviser. Courses listed as sociol.-psych. (social-psychology) may be used for credit either in sociology or psychology, but not in both.

Sociology is one of the subjects comprising the composite major in social science designed for prospective teachers. See courses in sociology listed under the College of Education. Prospective teachers who intend to either major or minor in sociology other than on the composite basis should also check requirements concerning sociology courses listed under the College of Education.

Requirements for a Minor

For students minoring in sociology, Sociol. 111 is required, with remaining hours to be recommended by the student's department and/or adviser, according to the needs and interests of the student.

Suggested Program for a Sociology Major (and Occupational Services[z] Goal)

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Phys. sci.	3	3
Hum. & fine arts	2	3
*Sociol. 111	3	
*Sociol. 112		3
Minor	3	2
Total Hours	16½	16½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Biol. sci.	3	3
Hum. & fine arts	3	
Hist.		3
Health	2	
*Sociol. 220A		3
Gen. ed.**	3	3
Electives (sociol.)	3	
Electives (minor)		2
Total Hours	16½	16½

Junior Year

	F	S
Undergrad. relig.	2	2
*Sociol. 397	3	
Sociol. electives	3	3
Electives (minor)	3	3
MSLS or lang.**	3	3
Electives (other)	2	5
Total Hours	16	16

Senior Year

	F	S
Undergrad. relig.	2	2
*Sociol. 404 and 405	3	3
*Sociol. 491		2
Electives (other or sociol.)	6	6
Electives (sociol.)	3	3
Electives (minor)	2	
Total Hours	16	16

Recommended electives for sociology majors: 316, 348, 350, 403, 420, 423, 426, 449, 516, 524, 552, 560, 561, 570, 597.

Recommended electives for occupational services goals: 357, 380, 383, 389, 403, 410, 446, 449, 480, 512, 542, 543, 550, 551, 555, 580, 591.

[z] Such areas as industry, community analysis, research, agencies, housing, teaching, seminary, etc.

* These courses are required of all majors.

**Refers to 1962 mathematics, statistics, logic, science, language requirement. Three of twelve hours of language may be applied to humanities.

Suggested Program for Preprofessional Social Work (and Indian Studies)

Freshman Year

	F	S
Undergrad. Relig. 121, 122	2	2
Engl. 111, 112	3	3
P.E.	½	½
Phys. sci.	3	3
Hum. & fine arts	2	3
*Sociol. 111	3	
*Sociol. 112		3
Hist. 121	3	
Pol. Sci. 110		3
Total Hours	16½	17½

Sophomore Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Biol. sci.	3	3
Hum.	3	
Psych. 111		3
Health	2	
*Sociol. 220B	3	
Sociol. 380 or 383		2-3
MSLS or lang.**	3	3-4
Econ. 101		3
Total Hours	16½	16½-18½

Junior Year

	F	S
Undergrad. relig.	2	2
*Sociol. 397		3
Sociol. 360	2	
Sociol. 362	2	
Sociol. 364		2
Sociol. 449	2	
Electives (minor)	3	5
MSLS or lang. or elective**	6	3
Hous. & Home Mgt. 351		2
Total Hours	17	17

Senior Year

	F	S
Undergrad. relig.	2	2
*Sociol. 405	3	
Sociol. 460	1	1
*Sociol. 491		2
Psych. 445	3	
Psych. 540		3
Electives (minor)	3	3
Sociol. 389	3	
Electives (sociol.)	3	2
Sociol. 449		2
Sociol. 543		2
Total Hours	18	17

Recommended Electives:

Sociology—316, 357, 403, 410, 480, 542, 543, 550, 551, 580.

[z]**Psychology**—320, 321, 445, 540, etc.

[z]**Anthropology**—101, 302.

[z](For other departments, consult adviser.)

*These courses are required for all majors.

**Refers to 1962 mathematics, statistics, logic, science, language requirement.

Courses

111. Introductory Sociology. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Foundation course designed to give groundwork for all sociological study. Presents general view of how social organization affects human behavior.

112. Modern Social Problems. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Analyzes forces in society which produce such modern social problems as war, crime, divorce, suicide, race friction, etc., and focuses attention on alleviation and prevention programs.

125. Applied Sociology. (2:2:0) F.S.Su. (G-SS m) Fitzgerald

Presents applications of sociological principles and findings in such fields as teaching, business and industry, nursing, military life, and medicine.

220. Social Statistics. (3:3:0) F.S.Su. Home Study also. (m) Christiansen, Peterson

Section A. Statistical procedures used in sociological research, including analysis of measurements of central tendency, dispersion, testing hypotheses, estimation from samples, and scientific prediction.

Section B. Emphasis on developing skill in statistical interpretation and analysis of studies in social work and other applied fields.

300, 301. People and Cultures Around the World I, II. (1-3:Arr.:Arr. ea.) F.Su. Limited to participants in B.Y.U. Travel Studies Program.

Analyzes the principal sociological aspects of those societies included in the B.Y.U. Travel Studies tours.

316. Social Control. (3:3:0) S. (m) Larsen, Payne

Importance of public opinion, belief, social suggestion, ceremony, personal ideals, etc., as means of controlling behavior.

348. **Collective Behavior.** (2:2:0) S. (m) Ballif, Larsen

The action of groups which operate without clearcut direction from the culture within which they are found. Such groups as lynching mobs, riots, and crowds are analyzed as well as mass behavior and communication. The causes, nature, and consequences of such behavior are considered.

350. **(Sociol.-Psych.) Introduction to Social Psychology.** (3:3:0) F.S.Su. Home Study also. (G-SS m) Prerequisite: Sociol. 111 or Psych. 111.

Nature of social influences; socialization; concept of norm; role and status; development of beliefs and attitudes; leadership; group processes. Applications to prejudice, persuasion, social control.

357. **(Sociol.-Psych.) Group Relations and Leadership.** (3:3:0) F.S.Su. Home Study also. (m) Dyer, Hardy

Designed to help the individual participate effectively in group life and to assist leaders to become efficient in role performance.

360. **Introduction to Social Work.** (2:2:0) F. (m) Prerequisite: Sociol. 111. Ballif, Symons

Introductory survey of the various fields and methods of social work. Considers implications of social work for the related professions.

362. **Introduction to Social Case Work.** (2:2:0) F. (m) Prerequisite: Sociol. 360. Symons

Analyzes principles and practices of case work with the maladjusted and dependent.

364. **Introduction to Social Group Work.** (2:2:0) S. (m) Prerequisite: Sociol. 360. Symons

Analyzes the principal theories and practices in social group work.

380. **Introductory Criminology and Penology.** (3:3:0) F.S.Su. Home Study also. (m) Smith, Symons

Analyzes nature and extent of criminal behavior. Emphasizes current theory and research as they relate to the causes of crime.

383. **Juvenile Delinquency.** (2:2:0) F.S.Su. Home Study also (m) Prerequisite: Sociol. 111. Smith, Symons

Analyzes lawlessness of children and adolescents. Stresses causation, treatment, prevention, and outlook.

386. **Organized Crime.** (2:2:0) S. (m) Prerequisites: Sociol. 111, 380 or 383. Symons

Historical backgrounds for development of organized crime in the United States. Considers proposals for prevention.

389. **Social Aspects of Mental Health.** (3:3:0) F. Home Study also. (G-SS m) Christiansen, Symons

Personality disorders and emotional maladjustments which originate in group life. Social causation, treatment, and prevention of mental ills.

397. **Methods of Research in Sociology.** (3:3:0) F.S.Su. Home Study also. (m) Prerequisites: Sociol. 111, 220 (Section A or B) or the equivalent or consent of instructor. Christiansen, Peterson

Basic methods of research used in investigation of sociological data.

403. **Marriage and the Family in American Society.** (2:2:0) F.S.Su. Home Study also. (m) Bradford, Fitzgerald

Analyzes the effect that American society has upon successful marriage and family living. Problems connected with the roles of child, adolescent, wife, husband, and the aged are discussed.

404. Development of Sociological Theory. (3:3:0) F.S.Su. Prerequisite: Sociol. 111. Bradford, Duke, Dyer

Analyzes the development of prominent sociological theories and the contributions of outstanding theorists.

405. Social Systems Analysis. (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 111. Bradford, Duke, Dyer

Analysis of generalizations derived by sociology concerning how social interactions, groups, institutions, roles, statuses, and culture affect human behavior.

410. Racial and Minority Group Relations. (2:2:0) F.Su. Home Study also. (m) Ballif, Larsen, Payne

Basic processes in present-day interrelations of racial and minority groups. Analyzes prejudice, its causes, and programs for its reduction.

420. Population Problems. (3:3:0) F. Home Study also. (m) Fitzgerald, Payne

The relationship of population factors to important problems encountered in education, labor, government, and other facets of modern life.

423. Rural Sociology. (2:2:0) S. (m) Prerequisite: Sociol. 111. Christiansen, Fitzgerald, Payne

A sociological study of the structure and processes of rural life. International comparisons are made.

426. The Sociology of Urban Life. (3:3:0) S. (m) Prerequisite: Sociol. 111. Fitzgerald, Smith

A sociological examination of norms, social controls, and social processes (and changing patterns in all of these) as they are seen in urban social life in both historical and contemporary perspective. Human ecology is also emphasized.

446. Sociology of Industrial Relations. (3:3:0) S. (m) Dyer, Larsen

Role that social forces play in determining industrial organization. Emphasizes labor-management relations and problems of applied industrial sociology.

449. Community Organization, Action, and Planning. (2:2:0) F. Home Study also. (m) Larsen, Ballif, Dyer, Fitzgerald

Basic fundamentals of community life. Analyzes techniques and methods for organizing community resources for efficient achievement of community objectives.

460. Senior Field Experience in Social Work. (1:1:3) F.S. Prerequisites: 9 hours of sociology plus Sociol. 360 and 362 or 364 (360 not to run concurrently).

Students with preprofessional social work orientation will be expected to work with a social worker in a local welfare agency setting three hours a week. For an additional hour, the instructor, social worker and students will meet in seminar capacity to discuss experiences, ameliorative efforts, etc.

470. Social Change. (3:3:0) S.Su. (m) Prerequisite: Sociol. 111. Bradford, Larsen, Peterson

Analyzes the factors and processes of social change.

480. Sociology of Aging. (2:2:0) F. (m) Bradford

Analyzes societal factors as they affect aging, Discusses demographic factors, political implications, agencies serving the older citizens, and role of the community in solving problems of aging.

491. Senior Seminar. (2:2:0) F.S.Su. (m) Prerequisites: Sociol. 111; senior standing.

Analysis, formation, and integration of basic sociological concepts.

For students working toward master's or doctor's degrees, the following groupings of courses are inserted: **demography** (minor only)—620; **deviant behavior** (major or minor)—550, 591, 686; **family** (minor only)—560, 660; **research methods** (major)—524, 561, 597, 701; **rural sociology** (minor only)—692; **social psychology** (major or minor)—530, 542, 552, 555, 730, 757, 792; **social organization** (major or minor)—512, 516, 543, 551, 570, 580, 626, 696, 791; **sociological theory** (major or minor)—690, 691; **special readings and research** (major or minor)—595, 596, 694, 796, 797; **other courses** (minor only)—543, 551; **thesis** (major)—699, 799.

501. **Political Sociology.** (3:3:0) F. (m) Prerequisite: Sociol. 111 or consent of instructor. Duke

An analysis of power and decision-making in social groups. Social bases of government and political behavior. Relationship of governmental institutions to other societal institutions.

512. **Sociology of Education.** (2:2:0) S. (m) Christiansen, Smith

Analyzes principles of sociology of education and their implication for theory and practice of school administration, curricula, and methods of instruction.

516. **Sociology of Religion.** (2:2:0) F. Home Study also. (m) Larsen

Analyzes influences of social factors in development of various religious systems.

524. **Advanced Social Statistics.** (3:3:0) F. (m) Prerequisite: Sociol. 111. Christiansen, Peterson

Advanced course designed for those who intend to do research or continue in graduate work.

530. **(Sociol.-Psych.) Theory and Research in Social Psychology.** (3:3:0) S. Prerequisite: Sociol. 350 or Psych. 350.

A survey, in depth, of current theory and research in social psychology, with emphasis on understanding the individual and his interpersonal interaction.

542. **Social Movements.** (2:2:0) S. (m) Payne

Discusses, social aspects of various movements from Adam Smith to John Dewey with special emphasis on social reform movements in the United States.

543. **Social Legislation.** (2:2:0) S. (m) Ballif

Basic problems and techniques of social legislation. Analyzes various systems now in operation.

550. **Social Aspects of Physical Disability.** (3:3:0) F. Peterson

Human relationships and social interaction in the lives of the physically handicapped, plus the study of special governmental and social agency attention to their needs and well-being.

551. **Sociology of Recreation.** (2:2:0) S.Su. (m) Ballif, Payne

Treats relations of recreational interests to growth, group behavior, and social maladjustments. Emphasizes basic theories of recreative activities.

552. **Personality: Culture and Society.** (3:3:0) F. (m) Prerequisite: Sociol. 111 or Psych. 111 Christiansen, Dyer, Larsen

Study of the role of culture and society in the forming and functioning of personality. Compares various peoples and cultures.

555. **(Sociol.-Psych.) Group Dynamics.** (3:3:0) F.S. (m) Prerequisite: Sociol. 350. Dyer, Larsen

Analyzes research and theories of group dynamics.

560. The Family Institution. (2:2:0) S. (m) Bradford, Christiansen
Emphasizes the family in several different societies and problems created by various family systems.

561. Contemporary Sociological Research. (2:2:0) S. (m)

570. Class, Status, and Power. (3:3:0) S. (m) Prerequisite: Sociol. 111.
Duke, Fitzgerald
A sociological examination of the causes and effects of stratification, the types of stratification systems, and the nature of social classes in various societies. Special problems such as social mobility, equality, and poverty are analyzed.

580. Social Relations in Medical and Health Organizations. (2:2:0) S. (m)
Peterson
Analyzes the structure of medical and health organization. Designed for premedical, predental, and health education students, as well as sociology majors.

591. Seminar in Crime Causation and Treatment. (2:2:0) F.Su. (m) Prerequisites: Sociol. 111, 380. Smith, Symons
Considers the major causes of crime and analyzes prevalent theory and techniques of treatment of criminals.

595. Directed Readings. (1-3:0:2-6) F.S.Su. (m)
Readings in special areas.

596. Directed Readings. (1-3:0:2-6) F.S.Su. (m)
Readings in special areas.

597. Advanced Research Methods. (3:3:0) S. (m) Prerequisite: Sociol. 397.
Peterson
Analyzes methods used in investigation of sociological data. Field projects give the student actual experience in research.

623. Demographic Analysis. (3:3:0) S. Prerequisite: Sociol. 420. Fitzgerald
The discipline of demography, with its special methods and procedures is analyzed. Major current research in the field receives careful coverage.

626. Contemporary Urban Social Structure. (3:3:0) S. Prerequisite: Sociol. 426 or consent of instructor. Fitzgerald, Smith
Research oriented examination of social forces in contemporary urban life which influence patterns of human interaction.

630. (Sociol.-Psych.) Attitude Change. (3:3:0) F. Prerequisite: graduate standing or permission of the instructor.
An examination of various theoretical approaches to the study of attitude development, change, and assessment, including a focus on both individual and mass persuasion.

660. Familial Role Structure. (3:3:0) S. Prerequisite: Sociol. 403. Bradford
Analysis of the various roles in the family, with their attendant characteristics and problems, in various societies, but particularly in the United States.

686. Problems in Race Relations. (2:2:0) F. Ballif, Larsen
Considers significant problems of a specialized nature in the field of race relations.

690. Seminar in Contemporary Sociological Theory. (2:2:0) S.Su. Prerequisites: Sociol. 404 and 405. Bradford, Duke, Dyer
An advanced course in sociological theory.

691. Seminar in Sociological Theory Building. (2:2:0) S. Prerequisites: Sociol. 404, 405, and 690. Bradford, Duke, Dyer
An advanced course in sociological theory building.

692. Seminar in Problems of Rural Society. (3:2:1) F. Prerequisite: Sociol. 423 or consent of instructor. Christiansen

Field type training, with on-the-job contacts with county agents, et al. Findings from these contacts will be the classroom material.

694. Directed Research. (1-3:0:2-6) F.S.Su.

Research in special areas.

696. Seminar in Industrial Sociology. (3:3:0) S. Prerequisite: Sociol. 446. Dyer, Larsen

Designed to give added insight by careful attention to current trends in industry, labor-management developments, government, participation, etc.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

701. Advanced Statistical Methods. (2:2:0) S. Prerequisites: Sociol. 320, 524. Christiansen, Peterson

Consideration of advanced statistical techniques such as scalogram analysis, factor analysis, and latent structure analysis.

730. (Sociol.-Psych.) The Consultative Process. (3:2:2) (Offered alternate years) Prerequisite: Psych. 357.

Nature of the consultative relationship. Essential elements involved in consultation, forces operating in consultation relationship, developing effective strategy for consultation.

757. (Sociol.-Psych.) Practicum in Group Development. (3:1:4) Prerequisites: graduate standing in psychology or sociology, Sociol.-Psych. 357, 555, consent of instructor.

791. Seminar: Social Organization. (2:2:0) F. Prerequisites: Sociol. 111, 405.

Comprehensive examination of major theories of organization with emphasis upon theory construction.

792. Seminar: Social Psychology. (2:2:0) S. Prerequisites: Sociol. 350 and consent of instructor.

Special emphasis on group processes and socialization.

796, 797. Special Research Problems. (1-3:0:2-6 ea.) F.S.Su.

799. Dissertation for Ph.D. (Arr.) F.S.Su.

Consultation and counseling in social problems

Speech

Professors:	Bateman, Low, Morley, Newman.
Associate Professor:	Clinger (chairman, F-570 HFAC).
Assistant Professors:	Boren, Jenson, Jex, Richardson, Weaver.
Field Supervisors:	Haws, Jones.
Consultants:	Fletcher, Peterson.

The Department of Speech offers programs leading to baccalaureate and master's degrees and professional certification in the areas of speech education, public address, and speech pathology-audiology.

The Department of Dramatic Arts and the Department of Speech are each administratively independent of the other; however, in order to more completely prepare the student for teaching in the schools and to meet the competition in professional theatre, the faculty members and courses from both departments are utilized to achieve these purposes.

The following courses are required of majors within both the Department of Dramatic Arts and the Department of Speech:

Dram. Arts 121, 460.
Speech 101, 271, 491.

The High School Teacher

Those students wishing to qualify as teachers in the high schools will complete the following courses and receive the joint recommendation of the Department of Dramatic Arts and the Department of Speech. The required courses are as follows:

	Hours
Dram. Arts 121, 123, 126, 319, (320-321—2 hours) 325, 460	16
Speech 101, 111, 271, 305, 371, 401, 491, 527	16
Plus: two hours from either Dram. Arts 315 or Speech 524	2
Total Hours	34

Additional courses recommended:
- Dram. Arts 564, 565, 423.
- Speech 360, 402, 525, 403.
- Commun. 255

Teaching Minor:
- Dram. Arts 121, 319, 1 hour from 320 or 321, 325, 460.
- Speech 101, or 102, 111 or 305, 371, 491, 527.

Speech 491 is required of majors and minors in both departments and is taught Spring Semester only. Required courses may be waived only on acceptance of the student's petition by the department waiver committee.

Mask Club is sponsored by both departments to provide practical experience and participation in all of the speech arts. It is held each Monday at 5:10 p.m. and 7:00 p.m. and on Tuesday night at 5:10 p.m. in the Experimental Theatre of the Harris Fine Arts Center.

Affiliation with Sigma Alpha Eta is expected of all majors and minors in speech and hearing.

Requirements for Minor:

The requirements for a general minor in dramatic arts and speech must be selected from the following courses:

Dram. Arts 121, 319, 1 hour from either 320 or 321, 325, 460.
Speech 101, or 102, 111 or 395, 371, 401 or 403, 491, 527.

The B.A., B.S., M.A., and M.S., degrees are offered by the department. Students may elect to specialize in public address, speech education, or speech and hearing.

Areas of Concentration

Public Address:

Basic Courses:	Hours
Dram. Arts 121	3
Speech 101, 111, 271, 491	9
Required for Specialization:	
Speech 305, 309, 371, 401, 402, plus 8 hours of electives from Speech 112, 113, 311, 312, 313, 360, 523, 524, 525, 527, or Dram. Arts 123, 325, 460. (Note: not more than 2 hours from the 112, 113, 312, 313, series will be allowed in the 30 hour minimum.)	18
Total Hours	30

Minor: (Nonteaching)

Basic Courses:	
Dram. Arts 121	3
Speech 101, 491	5
Additional Courses:	
8 hours from 111, 305, 309, 311, 371, 401, 402, 403	8
Total Hours	16

Suggested Sequence of Courses:

Freshman:	
Dram. Arts. 121; Speech 101	6
Sophomore:	
Speech 111, 271, 309, 371	6
Junior:	
Speech 305, 401, 402, plus 2 hours electives	8
Senior:	
Speech 403, 491, plus 6 hours electives	10
Total Hours	30

Speech Pathology-Audiology and Speech Science

(Also known as Speech Correction or Speech Therapy)

I. Courses leading to the baccalaureate degree:

Basic Courses:	Hours
Speech 101 or 102, 271, and Dram. Arts 121	7-8
Requirements for Specialization:	
Speech 350, 361, 363, 364, 449, 465, 475, 483	27
Total Hours	34-35

II. Additional courses needed in the five-year program for various types of certification in speech pathology-audiology.

A. Utah State Department of Public Instruction Professional Certificate for Public School Speech and Hearing Correctionist: Courses leading to the master's degree plus a baccalaureate minor in teacher education. Completion of the baccalaureate major in speech pathology-audiology and courses in teacher education minor qualifies the student for a nonrenewable certificate for public school speech and hearing correctionists and for traineeships in speech and hearing.

B. Utah State Department of Public Instruction Professional Certificate for Teachers of Special Education Classes for hard of hearing children: Courses leading to the master's degree plus an elementary or secondary certificate.

C. American Speech and Hearing Association Certificate of Clinical Competence in Speech Pathology may be obtained through the five-year program concurrently with the public speech correctionist certificate.

D. American Speech and Hearing Association Certificate of Clinical Competence in Audiology may be obtained through the five-year program concurrently with the teaching certificate for hard-of-hearing classes.

III. Recommended minor for speech pathology-audiology majors, on the undergraduate level, is teacher education or psychology. Other minors are acceptable. Recommended minor for speech pathology-audiology on the graduate level is counseling and guidance, educational psychology, or psychology minor. Other minors are acceptable.

IV. Requirements for a minor in speech pathology, audiology, and speech science are: Speech 271, 350, 361 or 363, 449 or 364, and associated clinics. (2 sem. hours.) These courses are designated with an (m).

V. Sequence of courses in speech pathology-audiology. Students beginning their professional courses in speech pathology-audiology in their sophomore year may expect to enroll for field work in the schools during their senior year. Those who begin later may have to defer this school practicum until the fifth year. Those entering the speech and hearing field after the freshman year should consult the coordinator of the speech and hearing area for approved variations of this sequence.

First Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Health 130		2
Hist. 170	3	
Chem. or geol.		3
Psych. 111	3	
Speech 102	2	
Dram. Arts 121		3
Math. or lang.	3	3
Electives	3	2
Total Hours	16½	15½

Second Year

	F	S
Undergrad. relig.	2	2
P.E.	½	½
Physics 100	3	
CDFR 210	3	
Zool. 105	3	
Zool. 261-263		4
Speech 271	2	
Speech 361		4
Speech 483A		1
Speech 350		2
Electives	3	3
Total Hours	16½	16½

Third Year

	F	S
Undergrad. relig.	2	2
Speech 363	4	
Speech 483C	1	
Speech 449	3	
Speech 483B	1	
Speech 364		3
Speech 483D		1
Speech 465		3
Tchr. Ed. 301	2	
Tchr. Ed. 460		3
Electives	3	3
Total Hours	16	15

Fourth Year

	F	S
Undergrad. relig.	2	2
Speech 550		2
Speech 551		2
Speech 475	4	
Speech 483		1
Tchr. Ed. 320	4	
Tchr. Ed. 449	5	
Tchr. Ed. 403		4
Electives		5
Total Hours	15	16

Fifth Year

Graduate courses, 500-600 series, in speech pathology and/or audiology and in a minor field for the master's degree or equivalent.

Public School Certification

For those seeking certification as public school speech and hearing correctionists, a minor in teacher education is required. For those seeking certification as teachers of special education classes of hard-of-hearing children, a teaching certificate as well as the professional sequence in audiology-special education are required. Students should contact the speech and hearing office and the special education office for further information.

Courses

58. Speech for Foreign Students. (0:5:0) F.S.

60. Remedial Speech (0:0:3) F.S.

A noncredit, nonfee service course for college students who have speech and/or language problems. Corrective treatment of disorders such as articulation and stuttering.

101. Fundamentals of Speech. (3:3:1) F.S. (m)

Beginning course to aid self-improvement in speech as a mode of communication. Provides opportunity to practice for greater effectiveness in personal use of the various speech skills. Recommended for speech majors, prospective teachers and students who desire improvement in their everyday speech activities.

102. Introduction to Public Speaking. (2:2:1) F.S.Su. (G-HA m)

Practical service course designed to improve speech efficiency, self-confidence, and skill in organization and delivery of all types of speeches encountered in business, professional, social, and religious activities.

111. Introduction to Argument and Debate. (2:2:0) F.S.Su. (m) (Offered even years) Boren, Richardson

Principles of argumentation and practice in debate.

112, 113. Debate Technique. (1:1:1 ea.) F.S. Boren, Richardson

Open to members of the forensic squad who obtain approval of the Speech Department and debate council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.

271 Introduction to Speech Correction and Aural Rehabilitation. (2:2:1) F.S.Su. Home Study also. (m) Jex

Consideration of the characteristics of normal speech and hearing and the deviations therefrom. The need, nature. and development of programs to correct speech and hearing disabilities.

304p. Public Speaking. (1:1:0) F.S.
Individual instruction. Special fee.

305. Discussion and Conference Leadership. (2:2:1) F.S.Su. (Offered odd years) Boren, Jenson
Concerned with basic democratic procedure for cooperative thinking. Offers experience in business and industrial conference leadership. For those who serve on committees or boards; conduct classroom sessions; conduct staff meeting; talk over and resolve common problems in church, school, or office; and for all who are preparing to participate in or lead informal discussion in small groups.

307. Introduction to Reasoned Discourse. (2:2:0) F.S. Richardson
Introductory course designed to give background in classical and contemporary logic, argumentation, and persuasion in oral and written discourse.

308. Reasoned Discourse Techniques Laboratory. (1:0:2) F.S. Richardson
Lab. for reasoned discourse—Speech 307.

309. Parliamentary Procedure. (1:1:2) F.S. Bateman
Study of the principles of parliamentary procedure and their application in a democratic society.

311. Advanced Debate. (2:2:0) F.S. Boren, Richardson
Study and application of logic and reasoned discourses applicable to argumentation in debate.

312, 313. Debate Techniques. (1:1:1 ea.) F.S. Boren, Richardson
Open to members of the forensics squad who obtain approval of the Speech Department and the debate council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.

350. Normal Development of Speech and Language. (2:2:1) F.S.Su. (m) Low
Normal development of oral communication skills of children. Normal influences of physiological maturation and learning.

360. Practical Phonetics. (2:2:0) S.Su. (m) Newman

361. Speech Pathology. (4:4:1) F.S.Su. Home Study also. (m) Prerequisite: Speech 271. Newman
Causes, differential diagnosis, and approaches to clinical treatment of the functional disorders of speech; procedures in counseling of parents of speech cases; the speech correction kit. Must be accompanied by Speech 483A or consent of instructor.

363. Introduction to Audiology. (4:4:1) F.S. (Su. even years) (m) Home Study also. Prerequisite: Speech 271. Morley
For prospective teachers and clinicians in speech correction and audiology as well as public health nurses. A survey of the physical, physiological, medical, and psychological aspects of hearing impairment and the effects of these upon language development. Included are audiometric screening, case finding and referral, interpretation of audiograms, description and use of hearing aids, as well as the educational, psychological, and social aspects of aural rehabilitation. Must be accompanied by Speech 483A or consent of instructor.

364. Oral Communication of the Hearing Impaired. (3:3:1) F.S. (Su. odd years) Prerequisite or concurrent: Speech 363. Weaver
Rationale and methods for teaching lipreading to acoustically handicapped children or adults with emphasis on correlation of lipreading with speech language, and auditory training. Must be accompanied by Speech 483D.

371. Speech Criticism. (1:1:0) F.S.
Study and practice designed to acquaint students with criterion and methods of judging speech contests in oratory, extemporaneous speaking, debate, legislative forum and other speech activities.

377. Secondary Teaching Procedures. (3:3:1) F.S. Prerequisite: Tchr. Ed. 301.
Clinger, Golightly, Jenson
Lectures, demonstrations, observations.

401. Advanced Speech Composition. (2:2:0) F.S.Su. (m) Prerequisite: Speech 101.
Bateman, Clinger, Jenson
Advanced study and practice in techniques of speech writing and delivery.

402. Advanced Argumentation. (2:2:0) S. Prerequisite: Speech 111 or 307.
Boren, Richardson
Analysis of classic debates and practice in argumentive writing and speaking.

403. Persuasive Speaking. (2:2:0) F.S. Prerequisites: Speech 101 or 102.
Bateman, Boren, Clinger, Jenson
Consideration of the psychology, principles, and techniques of persuasive speaking. Practice in the applications of these factors in oral communication.

449. Neurological Communication Disorders. (3:3:1) F.S. (Su. even years) (m) Prerequisites: Speech 350, 361.
Low
Nature, causes, and treatment of aphasia and communication disorders associated with cerebral palsy and mental retardation. Must be accompanied by 483B.

465. Diagnosis of Oral Communication Disorders. (3:3:1) F.S.Su. (m) Prerequisite: Speech 361 or 363.
Jones
Principles and procedures of evaluation of speech, language, and hearing disorders of children and adults with emphasis on implications for treatment.

475. Practice Teaching in Correction of Speech and Hearing Disorders in the Public Schools. (4:1:14) F.S. Prerequisites: completion of approximately 150 clock hours of supervised clinic practicum in speech and hearing correction in Speech 483.
Jex, Jones, Haws
Clinical practicum in the public school setting involving diagnosis and therapy. Participating in problems unique to the schools including scheduling, groupings, referrals, consultation and parent counseling. Student teaching fee is $25.00. Formal application is necessary for placement.

479. Secondary Student Teaching. (8:1:20-80) F.S. Prerequisites: Speech 377 and completion of two-thirds of courses required for teaching major and minor or composite major.
Clinger, Golightly, Jenson
For course description and fees, see Tchr. Ed. 479.

483A,B,C,D. Clinical Methods and Practicum in Speech and Hearing Rehabilitation. (1:1:5) F.S.Su. (m) Prerequisite: Speech 271.
Designed to build clinical competence with speech and hearing disorders. One to 2 credit hours per semester.

491. Senior Seminar. (2:2:1) S.Su. (m)
Clinger, Hansen
Required of all majors and minors. Attendance at Mask Club required.

523. Rhetorical Theory. (2:2:0) F.Su. (m)
Bateman, Boren, Jenson

524. High School Forensics and Programming. (1-2:1-2:1-6) Su.
Bateman, Boren

525. **Debate Coaching.** (1-2:1-2:0) F.S.Su. Boren, Richardson
Designed for prospective debate coaches. Covers debate techniques and how they are taught.

527. **Storytelling.** (2:2:0) F.S.Su. (m) Clinger
Art of storytelling. Especially valuable to teachers and youth leaders.

543. **Advanced Studies in Stuttering.** (2:2:0) F. (Su. odd years) Newman
The consideration of theories, etiology, and current research in the nature and therapies used in treatment of this speech disorder.

544. **Advanced Studies in Voice.** (2:2:0) F. (Su. even years) Low
A study of the description physiology, etiology, management, treatment, and reeducation of voice disorders.

546. **Advanced Studies in Cerebral Palsy.** (2:2:0) F. (Su. odd years) Jex
Study of the incidence, etiology, appraisal, and procedures for speech and hearing therapy of the individual with cerebral palsy.

547. **Psychology of Communication Disorders.** (2:2:0) F. (Su. even years) Jex
Study of speech perception, comprehension, dynamics, semantics, and symbols as related to communication disorders.

550. **Speech Science.** (2:2:1) F.S. (Su. odd years) Prerequisite: Physics 100. Morley
An investigation into the basic process underlying oral communication through experiment and instrumentation.

551. **Anatomy and Physiology of Speech and Hearing Mechanisms.** (2:2:0) F.S. (Su. even years) Prerequisites: Zool. 105, 261, 263, or consent of instructor. Newman
Special emphasis will be given to the anatomy and physiology related to the processes of communication including hearing, perception, conceptualization, symbolization, phonation, and articulation.

561. **Hearing Aids and Instrumentation.** (2:2:1) F. (Su. even years) Prerequisite: Speech 363. Weaver
Designed to acquaint students in speech, hearing, and related fields with basic designs, operation, selection, and use of hearing aids of all types for individuals with impaired hearing.

590. **Selected Reading and Projects in Public Address.** (1-2:0:0) F.S.Su.
Opportunity for expression of independent research and experimental work in special reading and public address projects over and beyond or outside of usual thesis work.

601. **Psychology of Public Address.** (2:2:0) S. Prerequisites: Speech 101, 401, or 403. Boren, Jenson
Advanced study of the psychological elements connected with audience thinking and style of speaking and composition commensurate with persuasion.

621. **Ancient Rhetoric and Oratory.** (3:3:0) F.Su. (Offered odd years) Boren

622. **British Public Address.** (3:3:0) S. Su. (Offered even years) Bateman, Boren

623. **American Public Address.** (3:3:0) F.Su. (Offered even years) Bateman, Clinger

624. **Contemporary Public Address.** (3:3:0) S. (Offered odd years) Bateman, Richardson

640. **Internship in Advanced Methodology and Clinical Practicum in Speech Pathology.** (1-2:1-2:0) F.S.Su.
This internship may be completed, under proper supervision, at university clinics, in hospitals, community clinics, schools, etc., located locally or in other cities and states.

641. **Internship in Advanced Methodology and Clinical Practicum in Audiology.** (1-2:1-2:0) F.S.Su.

643. **Methods and Problems of Research in Speech.** (2:2:0) F. Jenson, Low, Newman
Required of all graduate students. It is imperative that students take this course early in their graduate program.

646. **Oro-Facial Communication Disorders.** (2:2:1) F. (Su. odd years) Morley
Study of communication disorders associated with anomalies of palate, teeth, tongue, maxilla, mandible.

647. **Oral Communication of the Mentally Retarded.** (2:2:1) F. (Su. odd years) Low
Advanced studies of the communication disorders of the mentally retarded. Principles and procedures of communication habilitation designed for speech and hearing and special education majors and other school specialists.

648. **Advanced Studies in Aphasia.** (2:2:0) S. (Su. even years) Jex
Nature, etiology, diagnosis, and therapy associated with the speech of child and adult aphasics (brain damaged) will be studied; also linguistic, behavioral, and intellectual changes.

656. **Special Projects in Speech Pathology.** (1-4:1-4:0) F.S.Su.

657. **Special Projects in Audiology.** (1-2:1-2:0) F.S.Su.

660. **Clinical Audiology.** (2:2:2) S. (Su. odd years) Prerequisite: Speech 363. Weaver
The theoretical bases and development of skill in the techniques of administering new and advanced audiometric procedures in the assessment of impaired hearing.

661. **Community and Industrial Audiology.** (2:2:1) F. (Su. even years) Weaver
Study of hearing problems in industry, legal implications, hearing, testing of adults, and adult hearing rehabilitation.

662. **Pediatric Audiology.** (2:2:1) S. (Su. odd years) Prerequisite: Speech 363. Weaver
Principles and procedures of audiometry and other audiologic evaluations of preschool and school age children.

692. **Seminar in Public Speaking.** (1-3:1-3:0) F.S. Bateman

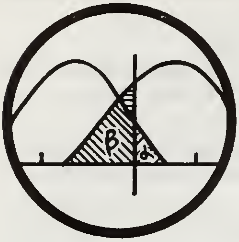
693. **Special Studies in Speech Pathology.** (1-3:1-3:0) F.S.Su.

694. **Special Studies in Audiology.** (1-2:1-2:0) F.S.Su.

695. **Seminar in Psychoacoustics of Speech and Hearing.** (3:3:0) S. (Su. even years)
A study of the acoustic nature of speech and hearing, intelligibility, characteristics of speech waves, frequency of occurrence of different speech sounds, and experimental phonetics.

699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

Statistics



Professors: Carter, Nielson.

Associate Professor: Richards (chairman, 348 JKB).

Assistant Professors: Burton, Eagar, Faulkner, Hilton.
Instructor: Rencher.

Statistics can be termed the application of the scientific method to decision making. Through the years statistics has changed from simple data collection, presentation, and analysis, to a field involving experimental design, mathematical probability, survey sampling, quality control, and a variety of other areas utilizing scientific methods to extend information from a small sample to an entire population from which the sample is drawn.

Though a relatively recent professional field of study, statistics has been given greater emphasis by a number of leading universities as a result of the growing demand for statisticians in the natural and social sciences as well as in industry and education.

The curriculum in statistics is designed to serve two purposes: (1) to provide students with the necessary education background for careers as professional statisticians in industrial organizations, government agencies, universities and research institutes, and (2) to provide an integrated series of courses which will serve the entire University in providing technical tools which can be applied in many subject-matter areas.

The department offers a major in statistics in either the College of Physical and Engineering Sciences or the College of Business. The department also offers the Master of Science degree and both an undergraduate and a graduate minor.

Requirements for a Major in Statistics in the College of Physical and Engineering Sciences

A. Departmental Requirements:

1. Stat. 221 or 321, 336, 337, 421, 422, and five additional classes from Stat. 241, 432, 433, 511, 522, 531, 534, 541, and Math. 311. Of these five, at least two must be selected from Stat. 522, 531, 534, 541. Stat. 501 can be substituted for either Stat. 221 and 336 or 321 and 336.
2. (a) Mathematics through 113 for those not planning graduate work in statistics.

   (b) Mathematics through 244 for those choosing a mathematics minor, or those planning graduate work in statistics.

B. Other Requirements:

1. A minor in another department of the University.
2. At least twelve hours in the College of Physical and Engineering Sciences not including the requirements in Section A.

   It is recommended that those contemplating graduate work in statistics also take Math. 541 and 542.

Requirements for a Major in Statistics in the College of Business

A. Departmental Requirements

1. Stat. 221 or 321, 330, 421, and six additional classes from Stat. 241, 337, 422, 432, 433, 511, 522, 531, 534, 541, Math. 311 or Acctg. 456. Of these at least one must be from Stat. 522, 531, 534, 541.
2. Math. 111, 112, 113, or equivalent.

B. Other Requirements:

1. The core requirements of the College of Business (See College of Business Section.)
2. It is recommended that those contemplating graduate work in statistics take Stat. 422, and Math. 541, 542.

Requirements for a Master of Science Degree

A. Statistics Department:

A student will be expected to complete a total of 27 hours, exclusive of thesis, of which a minimum of 18 hours, exclusive of thesis, must be in the Department of Statistics. The student must include 621 and either 636 or 631 in his program. Students with no previous training in statistics must complete Stat. 501, but it will not count toward the 27 hours required.

B. Other Departments:

1. The student must complete Math. 541 and 542 if not taken as an undergraduate.
2. The student must complete a minor in another field.

Courses

221. Principles of Statistics. (3:3:1) F.S.Su. (m) Prerequisites: Math. 101, 105 or 108 or equivalent.

Frequency distributions; measures of central tendency and dispersion; elementary probability; regression and correlation; sampling; elementary statistical inference including the normal, student's "t," chi-square, and analysis of variance tests.

241. Elementary Probability. (2:2:0) F.S.Su. (m) Prerequisite: Math. 111 or 105; recommended: Stat. 221 or 321.

Combinations; permutations, binomial, Poisson, multinomial, and hypergeometric distributions; combinatorial probability.

321. Elementary Mathematical Statistics. (2:2:0) F.S.Su. (m) Prerequisite: Math. 113 or equivalent. Rencher, Richards

Same material as Stat. 221, using calculus. Primarily for majors in the physical and engineering sciences.

330. Statistical Methods Used in Business. (3:3:0) S. (m) Prerequisite: Stat. 221 or 321 or equivalent. Carter, Eagar

Advanced time series analysis; growth curves; multiple correlation; forecasting; sample survey methods; introduction to operations analysis; introduction to sampling inspection and quality control.

336. Statistical Methods Used in the Sciences I. (3:3:0) F. Prerequisite: Stat. 221 or 321 or equivalent. Carter, Hilton

Estimation and tests of hypothesis; analysis of variance, including multiple range tests and orthogonal comparisons; introduction to experimental design; multiple and partial regression.

337. Statistical Methods Used in the Sciences II. (3:3:0) S. Prerequisite: Stat. 330 or 336. Carter, Hilton

Analysis of covariance and multiple covariance; multiple range tests and orthogonal comparisons in covariance analysis; sampling; nonparametric methods including contingency, sign, runs, and rank tests; rank correlation and partial rank correlation.

421, 422. Theory of Statistics I and II. (3:3:0 ea.) F.S. Prerequisite: Math. 113 or equivalent; recommended: a previous course in statistics and concurrent registration in Math. 243 and 244 respectively. Faulkner, Nielson

Development of distribution theory from the theory of probability; common discrete and continuous distribution functions including derived sampling distributions; tests of hypotheses and estimation using the principles of maximum likelihood.

432. Quality Control and Industrial Statistics. (3:3:0) F. (m) Prerequisite: Stat. 221 or 321; recommended: Stat. 330. Rencher, Richards

Quality control, sampling inspection and sequential analysis, industrial experimentation.

433. Operations Analysis. (3:3:0) S. (m) Prerequisite: Math. 112 or equivalent. Nielson, Richards

Mathematical decision-making processes including linear programming game theory, inventory and replacement models, sequencing and scheduling procedures.

501. Statistics for Research Workers. (5:4:3) F.S.Su. Prerequisites: Math. 105 or equivalent. Carter, Hilton

Probability, estimation, confidence intervals, tests of hypotheses, regression, analysis of variance and nonparametric methods. Designed for graduate students majoring in the natural or social sciences.

511. Advanced Computer Methods in Statistics. (3:1:6) F. Prerequisites: Math. 311 or Acctg. 456, Stat. 330 or 336 or 501. Carter

Application of digital computers to statistical problems including analysis of variance, multiple regression, analysis of covariance, factorial experiments, response surfaces, Monte Carlo simulation, linear programming, etc.

522. Theory of Linear Models. (3:3:0) S. Prerequisites: Stat. 421, and at least concurrent registration in 422. Nielson, Richards

A study of linear hypotheses with application to regression and experimental design.

531. Experimental Design. (3:3:0) F. Prerequisites: Stat. 330 or 336 or 501. Carter, Hilton

Randomized blocks, Latin squares, factorial designs, fractional replication, confounding and incomplete blocks.

534. Sampling. (3:3:0) S. Prerequiste: Stat. 336 or equivalent. Nielson

Systematic, simple random, stratified and cluster sampling, optimum allocation, ratio estimation, etc. Applications to various fields.

541. Advanced Probability. (3:3:0) F. Prerequisite: Math 113. Recommended: previous or concurrent registration in Stat. 421. Burton, Faulkner

Recurrent events, runs and sequences, advanced combinatorial methods, random walk, queuing and Monte Carlo methods, introduction to Markov chains and sequential processes.

591A,B. Graduate Seminar in Statistics. (½:1:0 ea.) F.S.

621, 622. Advanced Theory of Statistics I and II. (3:3:0 ea.) F.S. Prerequisites: Math. 542, Stat. 422. Recommended: Stat. 522. Faulkner

Advanced topics in the theory of estimation, testing hypothesis, multiple regression, multivariate analysis

623. Analysis of Variance. (3:3:0) F. Prerequisite: Stat. 422, 522 or equivalent. Nielson

Theory of analysis of variance for fixed effects, random effects and mixed models including two-three and higher-way layout, Latin squares, incomplete blocks, and nested designs.

631. Advanced Experimental Design. (3:3:0) S. Prerequisites: Stat. 422, 531. Recommended: Stat. 522. Carter, Nielson

Advanced topics in experimental design including the general p-level factorial, Youden squares, balanced incomplete blocks, response surfaces, lattice design.

632. Advanced Industrial Statistics and Reliability. (3:3:0) S. Prerequisite: Stat. 422, 432, or equivalent. Richards

Advanced topics in sequential sampling, tolerance limits, life testing, and reliability.

636. Advanced Statistical Methods. (3:3:0) F. Prerequisites: Stat. 422 and 336 or 501. Carter, Richards

Advanced topics in estimation, confidence intervals, tests of hypotheses including distribution-free methods, truncated distributions, order statistics.

641. Advanced Topics in Probability I. (3:3:0) F. Prerequisites: Math. 542, Stat. 422, 541. Burton

Advanced topics in Markov chains, stochastic processes and information theory.

642. Advanced Topics in Probability II. (3:3:0) S. Prerequisites: Math. 542, Stat. 541, 621. Recommended: Stat. 641, Math. 641. Burton

A measure theoretic approach to probability including Borel sets, characteristic functions, measure spaces, measurable functions.

690A,B. Special Topics in Statistics. (3:3:0 ea.) F.S.Su. Prerequisite: consent of instructor.

Specialized topics in statistics varied from time to time.

695. Reading in Statistics. (1-2:1-2:0) F.S.Su. Prerequisite: consent of department.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su. Prerequisite: consent of department.

Receiving instruction in use of statistics

Teacher Education

Professors: Alley (chairman, 153 McK), Berryessa, Woolf.

Associate Professors: Babcock, Belt, Campbell, Flandro, Wilcox, Wilson.

Assistant Professors: Alder, Allred, Baird, Brown, Cottrell, Harmon, Sucher, Tyndall.

Instructors: Henderson, Pinegar, Puckett.

Clinical Instructors: Bowles, Carlisle, H. Clark, W. H. Clark, Craig, Davidson, deJong, Jacob, LaPray, Miller, Nelson, Provost, Young.

The Teacher Education Department is organized to develop effective and capable teachers. Courses sponsored by this department are designed to help students understand children, organize materials, and acquire the knowledge, skills, and attitudes of effective teachers. The department trains teachers in three areas: special education, elementary education, and secondary education.

For admission to the teacher education program (first class in sequence: Tchr. Ed. 301) a student must have a grade-point average of 2.25 or better and maintain a B.Y.U. grade-point average of this standard or be dropped from the program. He must also satisfy a grammar and spelling requirement by passing a test which is administered by the Testing Service, B-238 ASB, or he may qualify by passing the ACT (American College Test) English section with a score of 20 or higher.

Students are required to obtain a Certificate of Admissions Card by clearing through the Teacher Certification Office (111 McKay) when the above prerequisites are met. This must be done prior to registration. TCO clearance is also required for certain other professional sequence courses as noted in the catalog.

No course in a student's secondary teaching major, teaching minor or composite teaching major in which he receives a grade of "D" will count for certification unless he has at least a 2.50 grade-point average in courses taken from that department. In some cases the approval of the chairman of that department is also required. If the student does not have a 2.50 grade-point average as noted above, he must repeat the class for which he received a "D" and receive a grade of "C" or better. If the course in question happens to be an elective, he may choose to take another elective course in the place of the class in which he received a "D." In this event, the "D" course will not be counted in the total hours required in that area.

Courses

301A. **Basic Concepts and Principles of Teaching.** (2:2:1) F.S.Su. Home Study also. Prerequisite: GPA 2.25. Person must have passed Grammar and Spelling Test for Teachers or English ACT with a score of 20 or above.
Baird, Belt, Berryessa, Harmon

For potential elementary teachers. An exposition of a simple and operational concept of teaching, consisting of three elements: the objective, the learning experience, and receptiveness to learning.

301B. Basic Concepts and Principles of Teaching. (1-2:1-2:1) F.S.Su. Home Study also. Prerequisite: GPA 2.25. Person must have passed Grammar and Spelling Test for Teachers or English ACT with a score of 20 or above.
Baird, Belt, Berryessa, Harmon

For potential secondary teachers regardless of level or field. An exposition of a simple and operational concept of teaching, consisting of three elements: the objective, the learning experience, and receptiveness to learning.

310. The State, the School, and the Teacher. (2:2:0) F.S.Su. Home Study also.
Cottrell

Understanding the school and its relationship to the community, the state and the nation; how schools are organized and administered, with emphasis on Utah school organization and Utah school laws.

324. Arts and Crafts for Elementary Teachers. (2:2:1) F.S.Su. Alder

Simple weaving, puppetry, paper mâché, clay modeling, and other activities suitable for children. These activities are suited to grades three through six.

325. Arts and Crafts for Early Childhood. (2:2:1) F.S.Su. Alder

Exploring ideas and materials for the young child (nursery school, kindergarten through third grade).

340. Children's Literature. (2:2:0) F.S.Su. Home Study also. Bowles

Evaluation of significant books, past and present, that meet children's needs.

377. Secondary Teaching Curriculum and Methods. (3:3:1) F.S.Su. Prerequisite: Tchr. Ed. 301. Belt, Callahan, Flandro

Identification of teacher and pupil activities required for conceptual learning and for each of the following types of subject matter and teaching: symbolic, performance ability, and habit. Lectures, demonstrations, and participation in noninstructional activities at a high school. (Students should arrange their class schedules to permit approximately 14 hours for directed observation and participation in the laboratory school during the 8:00 a.m. hour through the 3:15 p.m. hour.) Students interested in Indian Education should register in a specially designated section.

402. Educational Psychology. (2:2:0) F.S.Su. Home Study also. Prerequisites: Tchr. Ed. 420, 449, CDFR 210.

Psychological facts, principles, and concepts related to the teacher-learning situation are covered (formerly 304).

403. Development and Learning. (4:4:0) F.S.Su. Home Study also. Prerequisite: Tchr. Ed. 449 or 479.

Designed to give the student an understanding of the psychological facts, principles, and concepts related to the teaching-learning situation. Attention is given to such topics as the learning process, readiness, individual differences, motivation, and evaluation.

406. Teaching Materials Laboratory (Audio-Visual Aids). (2:2:1) F.S.Su.
Brown, Tyndall

Introduction to and production of audio-visual aids by individuals.

415. Educational Values. (2:2:0) F.S.Su. Home Study also. Harmon

Identification and analysis of fundamental American values and of value systems upon which American educational objectives should be based. Problems and concepts encountered in earlier courses in the educational sequence are examined in the light of the values studied.

420. Basic Classroom Procedures. (4:4:0) F.S.Su. Prerequisite: Tchr. Ed. 301.

For prospective elementary teachers. Identification of teacher and pupil activities required for conceptual learning and for the following related types of subject matter and teaching: symbolic, performance ability, and habit (formerly 320).

421. **Teaching Reading in the Elementary Schools.** (3:3:0) F.S.Su. Home Study also. Prerequisites: Tchr. Ed. 301, 420, 449. Allred, Sucher

Foundations in reading, instruction, methods, materials, and instructional aids for teaching reading in the elementary school (formerly 321).

422. **Kindergarten Proficiency.** (2:2:0) F.S.Su. Campbell

Organization of programs, lesson planning, methods and materials, and best practice in early childhood education (ages four to nine) with emphasis on the theory and practice in kindergarten.

423. **Teaching Science and Social Studies in the Elementary School.** (2:2:0) F.S. Su. Prerequisites: Tchr. Ed. 301, 420, 449. Berryessa, Clark

Materials and methods used in teaching science and social studies in the elementary schools.

424. **Teaching Language Arts in the Elementary Schools.** (2:2:0) F.S.Su. Prerequisites: Tchr. Ed. 301, 420, 449. Allred

The place of language arts in the elementary school curriculum with the materials and techniques necessary for teaching them.

425. **Methods and Procedures of Teaching Mathematics in the Elementary School.** (2:2:0) F.S.Su. Home Study also. Prerequisites: Tchr. Ed. 301, 420, 449. Brown, Nelson

Attention is directed to the mathematical ideas which underlie the program. Particular stress is given to effective experience for teaching mathematical concepts and skills, including procedure for attacking mathematical and word problems (formerly 322).

449. **Elementary Student Teaching.** (2-10:0:20-40) F.S. Prerequisite: Tchr. Ed. 301. Puckett

Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Special attention to on-the-job lesson planning and unit organization. Seminar on student teaching problems is held weekly. (A laboratory fee of $45.00 is charged, payable upon application for student teaching.)

An application for a specific assignment must be filed with Student Teaching Office one semester in advance of receiving an assignment. Student teachers are expected to do responsible teaching, participate in co-curricular activities, and keep in close contact with the faculty and students in a public school, as well as to participate in seminars and conferences with their supervisors. During this period of student teaching, the student must limit his load to the student teaching registration only. A minimum of 180 clock hours in actual charge of the class is required.

460. **Education of Exceptional Children.** (3:3:0) F.S.Su. Home Study also. Pinegar, Wilson

A general course designed to acquaint the student with the causes, recognition, incidence and characteristics of all types of exceptional children. Designed to meet needs of both classroom teacher and person going into special education.

461. **Introduction to Teaching the Mentally Retarded.** (2:2:0) F.S.Su. Home Study also. Prerequisite: Tchr. Ed. 460. LaPray, Pinegar, Wilson

Introductory course in education of mentally retarded children; study of classification and characteristics of the retarded, and general problems in their care, management, and education.

□**Zoology 374. Pathology of Organs of Vision.** (2:2:0) F.Su. Prerequisite: Zool. 261.

463. **Standard English Braille.** (4:4:0) F.Su.

Systematic presentation of Braille for those who intend to teach the visually handicapped or do volunteer transcribing. Not a course in touch reading.

464. **Arts and Crafts for the Handicapped.** (2:2:1) F.Su. Wilson
Arts, crafts and other media as they may be adapted to meet the needs of individuals with disabilities.

465. **Introduction to Teaching the Physically Impaired.** (2:2:0) F.Su. Prerequisite: Tchr. Ed. 460. Wilson
Introductory course for teachers of the physically handicapped; types and causes of physical impairment in children; and general problems of care and education of these children.

466. **History, Education, and Guidance of the Hearing Impaired.** (2:2:0) F. Prerequisites: Speech 271, Tchr. Ed. 460.
Background and history of education and guidance for students with impaired hearing.

467. **Teaching Speech and Language to the Hearing Impaired.** (4:4:0) F. Prerequisites: Speech 271, 373, 374; Tchr. Ed. 460.
Principles and procedures of teaching speech and language to children with hearing impairment.

469. **Methods of Teaching Elementary School Subjects to the Hearing Impaired.** (3:3:0) S. Prerequisites: Speech 271, Tchr. Ed. 460 and 467.
Techniques used in teaching reading, arithmetic, social studies, science, and elementary school subjects to children with impaired hearing.

479. **Secondary Student Teaching.** (4-8:1:20:40) F.S. Prerequisites: Tchr. Ed. 301, 377. Puckett
Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Special attention to on-the-job lesson planning and unit organization. (A laboratory fee of $45.00 is charged payable upon application for student teaching.)

An application for a specific assignment must be filed in the Student Teaching Office one semester in advance of receiving an assignment. Student teachers are expected to do responsible teaching, participate in co-curricular activities, and keep in close contact with the faculty and students in a public school as well as to participate in seminars and conferences with their supervisors. During this period of student teaching, the student must limit his load to the student teaching registration only. A minimum of 120 clock hours in actual charge of the class is required.

490, 491. **Seminar.** (1-2:1-2:0 ea.) F.Su. Alley

493, 494. **Independent Reading.** (1-2:1-2:0 ea.) F.S.Su. Alley

Preparation for Special Education Teachers

The College of Education offers professional courses leading to certification in special education for exceptional children in several areas. Students desiring certification must meet course requirements in the following areas:

1. General Education. Complete University graduation requirements. (See the general education requirements in the Student Academic Services section of this catalog.) In the various areas of specialization certain courses are recommended to fill group requirements. Students should consult the coordinator of special education for suggestions. (See section on Preparation of Elementary Teachers in this catalog.)

2. An approved minor or composite minor in a subject-matter area. (14 semester hours) Recommended minors are

Psychology
Sociology
CDFR
Speech Therapy
Industrial Education

Psychology-Sociology
Health-Physical Education
Health-Recreation
CDFR-Psychology
CDFR-Sociology

Homemaking Education (allowed only for students in special education).

3. Professional elementary or secondary education. Required courses to fulfill the state of Utah and University requirements for either elementary or secondary certification. (See the relevant sections of this catalog.)

4. Special Education.
   a. Courses required for provisional certification.

Course	Hours
Tchr. Ed. 460. Education of Exceptional Children	3
*Tchr. Ed. 464. Arts and Crafts for the Handicapped	2
*Speech 271. Introduction to Speech and Hearing Rehabilitation	2
Grad. Ed. 568. Observation and Participation in Special Education	2
Grad. Ed. 569. Practicum in Special Education	2-4

*One or both depending on area of specialization.

   b. Areas of specialization. Courses in areas of specialization must include the following:

1) Intellectually Handicapped:

Tchr. Ed. 461. Introduction to Teaching the Mentally Retarded	2
Grad. Ed. 567. Problems in the Education of the Mentally Retarded	3

Students who certify in secondary education should also take methods courses in teaching elementary reading and arithmetic.

2) Motor Handicapped:

Tchr. Ed. 465. Introduction to Teaching the Physically Handicapped	2
Grad. Ed. 566. Problems in the Education of the Orthopedically Handicapped	3

3) Blind:

Tchr. Ed. 463. Standard English Braille	4
Zool. 374. Pathology of Organs of Vision	2
Grad. Ed. 563. Problems in the Education of the Visually Handicapped	4

4) Partially Seeing:

Zool. 374. Pathology of Organs of Vision	2
Grad. Ed. 563. Problems in the Education of the Visually Handicapped	3

5) Hearing Handicapped:

Tchr. Ed. 467. Teaching Speech and Language to the Hearing Impaired	4
Speech 373. Introduction to Audiology	3
Speech 374. Oral Communication of the Hearing Impaired	4
Speech 483A,B,C,D. Clinical Methods and Practicum in Speech and Hearing Rehabilitation	4

(For other courses in speech and hearing therapy see Speech Department.)

PREPARATION FOR TEACHERS OF INDIANS

Elementary and Secondary school teachers are encouraged to prepare themselves to meet the unique challenges of teaching Indians. Elementary teachers may elect the Indian Studies minor (listed under General College) to accompany the arts and sciences major. Secondary teachers may not use the Indian Studies minor as their teaching minor, but are encouraged to take Indian Studies courses as electives where possible. Students may elect to complete their student teaching in Indian public schools by so indicating at the time of making application for student teaching. Any student interested in Indian teacher education is invited to contact the coordinator of Indian Education in the College of Education.

PREPARATION OF ELEMENTARY SCHOOL TEACHERS

The department offers a comprehensive program which will satisfy requirements for an elementary teaching certificate as well as graduation requirements for students registered in the College of Education. The candidate for certification must meet University graduation requirements.

The program consists of four elements:

1. University requirements for general education.
2. The arts and sciences majors for elementary school teachers.
3. The subject-matter minor, a material contribution to the student's academic competence and chances for employment.
4. The professional preparation, which includes 31 semester hours of designated professional education courses, constituting a major in elementary education.

1. **General Education Requirements** (58-60 hours)
   a. Biological Science: (6 hours) Bot. 105 and Zool. 315
   b. English composition: (6 hours) Engl. 111 and 112
   c. History and Government: (3 hours) Hist. 121
   d. Humanities: (6 hours) Dram. Arts 121 and Engl. 250 or 260 or 270 or 355 or 356.
   e. Math.-Science or Foreign Language Preference: (6-8 hours)
      (1) Math.-Science: (6 hours) Bact. 121 or 321, and Math. 305
      (2) Foreign Language: (6-8 hours)
   f. Physical Education and Health: (5 hours) Health 130, P.E. 184 and one course chosen from each of the following three categories:
      (1) Individual games: P.E. 104, 123, 126, 133, 134, 137, 138, 160, 161.
      (2) Group games: P.E. 140, 144, 148, 149, 152.
      (3) Physical Fitness: P.E. 121, 176, 177, 178.
   g. Physical Science: (6 hours) Geol. 101, 102, and Physics 100.
   h. Religion: (16 hours)
   i. Social Science: (5 hours) Hist. 120, and 360 or 365 or 366.

2. **The Arts and Science Major** (24 hours)
   a. Humanities and Aesthetics: (11 hours) Art 226; Music 102, 237; Tchr. Ed. 324 or 325, 340.
   b. Physical Education and Health: (4 hours) Health 361; P.E. 375 or 376.
   c. Social Science: (9 hours) Geog. 120; CDFR 210; and an additional three hours from the following: Anthrop. 101, Sociol. 111 or 112, Pol. Sci. 110, or Econ. 101.

3. **The Subject-Matter Minor** (14-18 hours)

Elementary education majors are required to have a minimum of fourteen hours in an approved area of specialization. This area is to be chosen from the following list:

Art—(15 hours) Art 101 or 108, 121, 122, 227 or 253, 256 or 263, 306.

Communications—(14-15 hours) 101, 211, 255 and 7-8 hours from the following: 330, 346, 351, 365, 371, 377, 480, 491, 491B, 535, 550.

Indian Studies—(15 hours) Undergrad. Relig. 232; Anthrop. 204, 302; Hist. 364; Tchr. Ed. 377 (Indian Education section) and 4 hours electives approved by Indian Studies adviser.

Industrial Education—(15 hours) Indus. Ed. 100, 105, 250, 260, 505.

Language Arts—(14-15 hours) Dram. Arts 360; Speech 366, 527, and eight to nine hours from the following: Engl. 215, 218, 225, 325, 221, and 426.

Library Science—(14-15 hours) Lib. Sci. 111, 355, 363, 370 or 569; Speech 527.

Mathematics—(15 hours) Math. 300, 301, 302, 306 and two hours of 495.

Modern Language—(18 hours) Mod. Lang. 201, *211, 301, 326, 377, 445. *Note—students minoring in Spanish will take Spanish 311 rather than 211.) Classes up to and including Lang. 301 may be waived for students who demonstrate a proficiency in the foreign language.

Music—(14-18 hours) Music 101, 191, 193, 202, 4 hours of ensemble, 5 hours of piano and/or voice. Students having a performing proficiency in piano and/or voice may, by special examination, have the private lessons waived.

Physical Education— **Men** (14½-15 hours) P.E. 121, 140 or 141, 142, 152, 180, 181, 182, 201 or 330, 231, 232, 234, 236, 237, 314, and Health 121.
Women (15 hours) P.E. 164 or 165, 180, 201, 242, 244, 330, 514; Health 381, 521.

Science—(15 hours) Chem. 100; Physics 127, 137; Bot. 205; Zool. 261, 263, 372.

Social Science—(14-15 hours) From the following courses in at least three fields: Anthrop. 101 or 305; Hist. 110, 111, 340, 352; Psych. 350; Pol. Sci. 105, 464; Sociol. 111 or 112, 403, 512.

Note:
1. A student may not use a course listed in his minor field to count again in meeting the requirements of the General Education Program or his arts and science major.
2. Students taking a foreign language emphasis or a foreign language minor need not take Bact. 121.
3. Additional minors other than those listed above may be permitted by special petition to the coordinator of elementary education.
4. Additional courses in the minor area may be permitted by special petition to the coordinator of elementary education.

4. **The Major in Elementary Education** (31 hours) (In sequence to be taken)

*Tchr. Ed. 301A.	Basic Concepts and Principles of Teaching	2 hours
*Tchr. Ed. 420.	Basic Classroom Procedures	4 hours
*Tchr. Ed. 449.	Elementary Student Teaching	8-10 hours
Tchr. Ed. 310.	The State, the School, and the Teacher	2 hours
*Tchr. Ed. 402.	Educational Psychology	2 hours
Tchr. Ed. 406.	Teaching Material Laboratory	2 hours
Tchr. Ed. 415.	Educational Values	2 hours
*Tchr. Ed. 421.	Teaching Reading in the Elementary School	3 hours
*Tchr. Ed. 423.	Teaching Science and Social Studies in the Elementary School	2 hours
or		
*Tchr. Ed. 424.	Teaching Language Arts in the Elementary School	2 hours
*Tchr. Ed. 425.	Methods and Procedures of Teaching Math. in the Elementary School	2 hours

*Teacher Certification Office clearance required before registration.

Cycles. Copies of the cycles with complete programs for all four years are available in Room 111 McKay (Teacher Certification Office). Students enter the cycles according to alphabetical order.

Prerequisites for Student Teaching. Successful completion of the following courses: Art 226, Mus. 237, Math. 305, and Tchr. Ed. 301A, 324, or 325, and 340.

During the semester in which the student takes Tchr. Ed. 301 he will apply for a student teaching assignment for the following semester as well as make application for his teaching certificate.

Students desiring to obtain a kindergarten proficiency endorsement should take a composite major in CDFR and elementary education.

PREPARATION OF SECONDARY SCHOOL TEACHERS

The College of Education offers professional courses leading to secondary certification. Students desiring certification in this area must complete course requirements in the following areas:

1. **General education.** See the general education requirements in the Student Academic Services Section of this catalog.
2. **An approved teaching major and minor, or composite major.** (See below.)
3. **Professional education.** The following required courses fill the state requirements for professional education. Sequence courses must be taken as shown below. Nonsequential courses may be taken at any time. For course prerequisites check course descriptions.

Sequence courses:

*Tchr. Ed. 301.	Basic Concepts of Teaching	1-2 hours
*Tchr. Ed. 377.	Secondary Teaching Curriculum and Methods	3 hours
*Tchr. Ed. 479.	Secondary Student Teaching	8 hours
*Tchr. Ed. 403.	Development and Learning	4 hours

Note: Students whose major departments offer courses equivalent to Tchr. Ed. 377 and 479, bearing those numbers, should register in the appropriate department.

Nonsequential courses, to be taken during the student-teaching semester:

Tchr. Ed. 310.	The State, the School and the Teacher	2 hours
Tchr. Ed. 406.	Teaching Materials Laboratory (Audio-Visual Aids) (Recommended but not required.)	2 hours
Tchr. Ed. 415.	Educational Values	2 hours
Health 362.	Health Education for Secondary Teachers	2 hours

*Teacher Certification Office clearance is required before registration.

Subject-Matter Preparation of Secondary School Teachers

The University offers two approaches to certification. One consists of the traditional teaching major and teaching minor, while the other consists of a composite teaching major.

Prerequisites for Student Teaching: (1) A B.Y.U. cumulative grade-point average of 2.25 or better; (2) Completion of Tchr. Ed. 301 and 377 (or departmental equivalent); (3) Completion of at least 15 semester hours in the teaching major and 10 semester hours in the teaching minor, or 25 semester hours in the composite teaching major; and (4) Application for certification in the Teacher Certification Office, 111 McKay.

Preparation of Teachers of the Core Curriculum. One pattern of curriculum organization in the public junior high schools is the core curriculum. The most common combination in the core curriculum is history or social studies and English. To increase a teacher's employability and preparation for junior high school teaching, it is therefore recommended that a major in history be combined with a minor in English, or a major in English with a minor in history.

Teaching Major and Teaching Minor. The teaching major and the teaching minor consists of designated courses in subjects taught in Utah high schools. The majors and minors are determined cooperatively by the subject-matter departments and the Department of Teacher Education. The following subjects are approved as teaching majors or minors (please note exceptions):

Accounting
Art
**Biology (minor only)
Botany (to be used with zoology only)
**Business education
**Chemistry
Crafts (minor only, composite in industrial arts)
Drafting (minor only, composite in industrial arts)
Dramatic Arts and Speech
Driver and Safety Education (minor only)
*Economics
Electricity/Electronics (minor only, composite in industrial arts)
**English
**French
General business (minor, usable only with business education major)
Geography
Geology
**German
Graphic Arts (minor only, composite in industrial arts)
Health
History
Industrial Education (two options)
  1. General Shop
  2. Unit Shop
Journalism (Communications)
*Latin
*Library science (minor only)
**Mathematics
*Metal Work (minor only, composite in industrial arts)
Physical Education—Men
**Physical Education—Women
**Physics
*Political science
*Psychology
Recreation (as part of composite only)
Russian
**Spanish
*Sociology
Wood Work (minor only, composite in industrial arts)
Zoology (to be used with botany only)

*If elected as a major or minor, the other subject must be one marked ** above.

However, a minor in economics may be used with a business education major only.

Composite Teaching Major. A composite teaching major consists of work in three subjects in the same general field. One subject is designated as the dominant subject and the other two subjects are designated as the related subjects. For guidance in selecting and completing a composite teaching major, students must consult with the Teacher Certification Office, Room 111 McKay, whose responsibility it is under cooperative advisement with the academic departments to administer composite majors.

The following general fields may be used for composite teaching majors. With only those exceptions noted, any subject in the general field may be chosen as the dominant.

Substitution of other subjects within the general field is not acceptable.

Business education:
  Accounting
  Economics
  Secretarial or
  Office administration
Agricultural education
Art education
Homemaking education
Industrial education
Language arts:
  Dramatic arts and speech
  English
  Journalism
Mathematics and physical sciences:
  Chemistry
  Geology
  Mathematics
  Physics
Music education
Physical education and health:
  Dominant: Physical education or health
  Related: Physical education
  Dance
  Health education
  Driver and safety education
  Recreation education
Social sciences:
  Geography, history, and one of the following:
    Economics
    Political science
    Psychology
    Sociology

Courses Required for Teaching Majors, Teaching Minors, and Composite Teaching Majors

Accounting:

26-Hour List (Major): 201, 202, 301, 302, 312, 475; and eight or more hours selected from 342, 356, 420, Bus. Ed. 206.

18-Hour List (Minor, dominant or related subject): 201, 202, 301; and nine or more hours selected from 302, 312, 342, 356, 420, 475.

Agricultural Education: (Composite major - 62 hours)

Plant Sciences (20 hours)
Agron. 151, 282.
Six hours from Hort. 101, 103, 312, 350.
Six hours from Agron. 302, 305, 308, 340, 351, 455; Hort. 340, 402, 471; Bot. 462.

Animal Sciences (15 hours)
An. Sci. 153, 207.
Electives (any animal science course)

Agricultural Economics (11 hours)
Agr. Econ. 112, 325, 410.

Farm Mechanics (16 hours)
16 hours from Indus. Ed. 125, 188, 218, 317, 341; Drawing 111.

Art:

57-Hour List (Composite major): Starred (*) courses must be completed before attempting upper division work. Basic requirements: *120, *121, *122. General requirements: At least 8 hours selected from 306, 307, 208, 310, 403, 405.

Dominant and supporting fields: The student will complete 16 hours in one of the following three groups as a dominant field and 12 hours in each of the other two fields.

1. Crafts and sculpture (plastic and graphic): *250, *256, *263, 312, 350, 352, 356, 358, 359, 361, 362, 366.
2. Drawing and painting: *227, *233, 321, 322, 327, 329, 333, 335, 474, 476, 580, 582.
3. Commercial art and interior design: *239, 314, 341, 342, 343, 415, 417, 444, 446, 447, 448.

39-40-Hour List (Major): Starred (*) courses must be completed before attempting upper division work except art history. Lower division: *120, *121, *122, *227, *233, *239, *250, *256, *263. Upper division: Six hours of art history: 321 or 322; 327 or 333; 312 or 342 or 341; 356 or 358 or 359 or 361; and four hours of electives chosen from 310 or any class listed above but not previously elected by the student.

20-Hour List (Minor): 120, 121, 122, 227 or 233, 239, 256, 263, 306.

Biology:

May not be used as a teaching major. This may not be used as a minor when botany or zoology are selected as the major or minor. See Botany and Zoology for teaching majors.

20-Hour List (Minor): Bot. 101, 105, 276 or Zool. 276; Zool. 212, 213; and one course from the following: Bot. 110, 440; Zool. 261 (requires 262 or 263 as a lab), 230.

Botany:

(Prospective biology teachers should complete either a botany major and a zoology minor or a zoology major and a botany minor. Bot. 377 and 479 are required for certification of all prospective biology teachers.)

28-29-Hour List (Major: 101, 110, 205, 321, 331, 376, 440, 450, 490; plus one of the following: 225, 335, 455.

Required supporting courses for teaching majors:
Bact. 321
Math. 105, 106, or 111
Chem. 105, 106

Recommended supporting courses for teaching majors:
Agron. 282
Bot. 255, 335, 378, 455, 460
Geol. 111, 112
Chem. 151 or 351, 354
Stat. 221

20-Hour List (Botany minor): 105, 110, 205, 225, 321, 440, 450. (Students must have had Zool. 105 which counts toward general education requirements. Otherwise Bot. 101 is required.)

Business Education:

35-Hour List (Major): 203, 204, 206, 211, 220, 300, 305, 113 or 411, 320, 370, 475, 485, or 486, and at least three hours selected from courses offered in the College of Business exclusive of Acctg. 201, 202, Econ. 111, and the teaching minor.

Note: In order to qualify for a teaching major in business education a student must complete:

a. One of the following teaching minors: accounting, economics, or general business; and
b. Acctg. 201, 202, and Econ. 111.

17-Hour List (Secretarial minor, dominant or related subject): 113, or 211, 203, 206, 220, 320, 370.

18-Hour List (Office administration minor, dominant or related subject): 203, 204, 206, 220, 320, 305, 370.

Chemistry:

30-31-Hour List (Major): 111, 112, 351, 352, 354 (1 hr.), 355 (1 hr.), 461, 462, 464, 491, 594 (A and B), and either 514 or 521.

17-18-Hour List (Minor, dominant or related subject): Recommended sequence: 111, 112, 351, 352, 354, 355. The following sequence is also acceptable: 105, 106, 223, 351, 354.

Dramatic Arts and Speech:

34-Hour List (Major):
Dram. Arts: 121, 123, 126, 319, two hours from 320 or 321; 325, 460.
Speech: 101, 111, 271, 305, 371, 401, 491*, 527.
Plus 2 hours from Dram. Arts 315 or Speech 524.

19-21-Hour List (Minor, dominant, or related subjects):
Dram. Arts: 121, 319, one hour from 320 or 321, 325, 460.
Speech: 101 or 102, 111 or 305, 371, 491*, 527.

***Note:** 491 is required of all majors or minors except those majoring in speech and hearing.

Driver and Safety Education: (Minor or related field only) See course requirements listed under Health.

Economics:

30-Hour List (Major): 111, 112*, 274, 311, 312; and 15 hours selected from 358, 402, 411, 412, 415, 430, 441, 453, 461, 462, 471, 476, 482, 488.

20-Hour List (Minor, dominant or related subject): 111, 112*, 274, 311, 312; and five hours selected from 358, 402, 430, 441, 453, 461, 471, 476, 482.

***Note:** Econ. 101 may be substituted for either 111 or 112 by permission of the department chairman.

English:

35-Hour List (Major): 221 or 321, 251, 361 or 362, 371 or 372 or 373, 374 or 375, 382 or 582, 490; at least two courses selected from the following: Engl. 332, 333, 335, 336, 338, 341, 342, 343, 350, 355, 356, 359, 366, 367, 380, 381, 420, 450; and upper-division courses to total 35 hours. (Students are required to fill the B.A. requirements.)

20-Hour List (Minor, dominant or related subject): 221 or 321, 275, 276, 277, and electives in English to total 20 hours.

Note: All English courses numbered in the 300, 400, and 500 levels may be counted toward the thirty-five hour total except Engl. 377 and 479, which count as teacher education courses; but only the following courses numbered below 300 may be counted: Engl. 215, 218, 221, 251.

French:

32-Hour List (Major): 201, 301, 321, 322, 326, 429, 441, 442, 443, 444, 445.

20-Hour List (Minor): 201, 301, 311, 321, 326, 440.

Note 1: It is strongly recommended that teaching majors and minors who have not had foreign residence or participated in a Semester Abroad Program take French 211 and 311 courses, if they are not already listed as required. It is also strongly recommended that teaching majors take Ling. 325. All students who intend to major in French must take French 377. This class is highly recommended for language minors.

Note 2: Classes up to and including French 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Certification Office.

General Business: (May be used **only** with a business education major.)

16-Hour List (Minor): 14 of the 16 credits must be in two departments.
Acctg. 201, 202, 342, 355.
Econ. 101 or 111, 274, 311, 312, 461, Geog. 231.
Bus. Mgt. 205, 347, 480, 481.

Geography:

32-Hour List (Major): 101, 211, 231, 401, 405, 450, 501, 504, 598; two courses selected from 441, 504, 522, 533; two courses selected from 455, 460, 470, 475, 480; and electives to bring the total to thirty-two hours.

20-Hour List (Minor, dominant or related subject): 101, 120, 211, 231, 450, 501, plus three elective hours from upper-division geography courses.

Geology:

30-Hour List (Major): 111, 112, 251, 252, 311, 502; and eight hours selected from 312, 313, 410; **or** eight hours selected from 306, 460, 480, 510.

20-Hour List (Minor, dominant or related subject): 111, 112, 501, 502; and eight hours selected from 306, 460, 480, 510.

German:

32-Hour List (Major): 201, 301, 321, 322, 326, 429*, 442, 443, 444, 445.

Note: German 441 or 495 or Ling. 325 may be substituted for German 429.

20-Hour List (Minor): 201, 211, 301, 311, 321, 326, 445.

Note 1: It is strongly recommended that teaching majors and minors who have not had foreign residence or participated in a Semester Abroad Program take German 211 and 311 courses, if they are not already listed as required. It is also strongly recommended that teaching majors take Ling. 325. All students who intend to major in German must take German 377. This class is highly recommended for language minors.

Note 2: Classes up to and including German 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Certification Office.

Health and Safety Education:

32-Hour List (Major): Health 121, 325, 381, 451, 460, 521, 552; Food & Nutr. 115; Zool. 261 and 262; Psych. 340; and 8 hours selected from the following courses: Health 501, 530, 560, 561; Bact. 311; Psych 185; and Sociol. 403.

20-Hour List (Dominant-Related): Health 121, 381, 460, 521; and 11 hours selected from the following courses: Health 325, 451, 501, 552, 560, 561; Food & Nutr. 115; Bact. 311; Psych. 321, 340.

16-Hour List (Minor): Health 121, 381, 460, 521; and 7 hours selected from the following courses: Health 325, 451, 552, 560, 561; Psych. 340; Food & Nutr. 115.

12-Hour List (Related) (to be used with 28-hour list from Physical Education only): Health 121, 381, 521; and 5 hours selected from the following courses: Health 451, 560, 561; Psych. 340; Food & Nutr. 115.

16-Hour List (Driver and Safety Education Minor-Related): Health 121, 325, 444, 445; and 6 hours selected from the following courses: Health 401, 521, 530, 460; and Psych. 321. Student's program **must be** approved by Health Education Department adviser.

History:

30-Hour List (Major): 110, 111, 120, 121, 366, 388, and 400; plus sufficient hours from the list below to bring the total to 30 hours:

20-Hour List (Minor, dominant, or related subject): 110, 111, 120, 121, 366; plus sufficient hours from the list below to bring the total to twenty hours: 300, 304, 307, 311, 312, 313, 320, 322, 323, 326, 327, 330, 331, 332, 333, 334, 335, 340, 341, 343, 344, 346, 347, 351, 352, 360, 362, 363, 364, 365, 370, 372, 375, 377, 378, 379, 381, 382, 388, 400, 453, 454.

Homemaking Education: (Composite teaching major)

48-Hour List (Major): Clo. & Text. 110, 165, 235 or Home. Ed. 521; electives*; Food & Nutr. 255, 264, 265, 340; Hous. Home Mgt. 350, 201 or 380, 335, 351, 370; CDFR 210, 322, 361; Home. Ed. 101, 375.

*Please consult a Department of Homemaking Education counselor for selection of suitable course.

Industrial Education:

Two basic programs are offered in industrial education: General Shop and Unit Shop.

The General Shop Program provides a broad approach with limited training in drafting, metals, woods, crafts, electricity, and graphic arts or power; with the addition of several professional courses. This program is designed to prepare teachers for junior and senior high school general shops, and the elementary school programs. An academic minor is required in this program.

The Unit Shop Program provides training in two basic areas with one dominant, and one related area. This approach will give considerable depth in the dominant area, and a more limited coverage in the related area. This program will prepare teachers for instruction in unit shop areas. An academic minor is required in this program.

General Shop Program:

38-Hour List (Major*): Indus. Ed. 100, 105, 130, 139, 210, 250, 260, 326, 360, 375, 405, 470, 540 or Grad. Ed. 550, Indus. Tech. 325, Engr. Tech. 101, 102, Math. 121, Art 110, Drafting 111, 211.

***Note:** If any area of instruction found in the major is selected for a minor, then the requirements in this area are to be dropped, and a corresponding number of elective hours in industrial education are to be added in the major.

16-Hour List (Minor in crafts): Indus. Ed. 250, 260, 360 and eight hours selected from Indus. Ed. 160, 493A,B,C,D; Art 263, 256, 366.

17-Hour List (Minor in drafting): Drafting 111, 211, 156, 210, 311, 410, 411.

16-Hour List (Minor in electronics): Engr. Tech. 101, 102, and 10 hours selected from Engr. Tech. 221, 228, 231, 232, 234, 235.

16-17-Hour List (Minor in graphic arts): Indus. Ed. 250; Indus. Tech. 351, 452, 453; Indus. Ed. 494 or Art 250.

17-Hour List (Minor in metal work): Indus. Ed. 130, 139, 326; Indus. Tech. 231, 325, 337, and five hours selected from Indus. Tech. 120, 125, 336, 131, 335.

16-Hour List (Minor in wood work): Indus. Ed. 100, 105; Indus. Tech. 210, and eight hours selected from Indus. Ed. 119, 200; Indus. Tech. 211, 301, 337.

Unit Shop Program

9-Hour List Required Core: Drafting 111 or Engr. Tech. *228, Indus. Ed. 470, 405A or B; or Engr. Tech. *234, *237, 540.

*To be substituted when electronics is dominant area.

17-18-Hour List (Dominant):

- 17-18-Hour List Electronics: Engr. Tech. *101, *102, *231, and six hours selected from 221, 232, 235.
- 18-Hour List Drafting: Drafting *156, *210, *211, *410, 311, 411, 355.
- 18-Hour List Metal: Indus. Ed. *130, *139, *326, Indus. Tech. *325, *337, 231, 333, Engr. Tech. 252.
- 17-Hour List Wood: Indus. Ed. *100, *105; Indus. Tech. *210, *337; Indus. Tech. 200, 211.

10-Hour List (Related emphasis): Select one other than the dominant choice. Take asterisk (*) marked classes above.

Crafts: Indus. Ed. 100, 260, 360, Art 256; Graphics: Indus. Ed. 250, Indus. Tech. 351, 452; Electronics: Classes marked with asterisk (*) in dominant emphasis list. Drafting: Classes marked with asterisk (*) in dominant emphasis list. Wood: Classes marked with asterisk (*) in dominant emphasis list.

Minor: Academic Minor required: See Teacher Education Minors.

Journalism (Communications):

30-Hour List (Major): Commun. 101, 211, 255, 307, 312, 323, 330, 480; seven hours selected from Commun. 331, 346, 351, 352, 365, 371, 427, 456, 491, 520, 528, 535, 550. (Commun. 495 may be substituted for Commun. 323.)

20-Hour List (Minor, dominant, or related subject): Commun. 101, 211, 312, 323, 480; four hours selected from Commun. 255, 307, 330, 365. (Commun. 495 may be substituted for Commun. 323.)

Latin:

28-Hour List (Major): 201, 301, 321, 322, 429, 431, 432, 441, 442.

20-Hour List (Minor): 201, 301, 321, 322, 441, 442.

Note 1: All students who intend to qualify for a teaching certificate must take Latin 377.

Note 2: Classes up to and including Latin 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Certification Office.

Library Science:

16-Hour List (Minor): 355, 363, 466, 370, Tchr. Ed. 406, and sufficient electives to total 16 hours from the following: Tchr. Ed. 340, Engl. 420, Hum. 201, Speech 527, Lib. Sci. 569, 585.

Mathematics:

34-36-Hour List (Major): Math. 141, 142, 243, 244; or 112, 113, 300, 387; 301, 302, 371; Stat. 241, and nine hours of other upper division mathematics excluding 305 and 306.

19-20-Hour List (Minor, dominant, or related subject): Math. 141, 142, 243; or 112, 113; 301, 302 and 371.

Music Education:

59-Hour List (Composite music education major): 103*, 165 (For voice specialty only), 191, 192, 193, 194, 202, 237, 291, 292, 363, or 566, 364 or 567, 367, 368, 370, 372, 374, 375, 378, 472, 481, 484*, 485*; six hours of ensemble, twelve hours of private instruction in the student's private specialty; pass a piano proficiency requirement equivalent to four semesters of piano before student teaching.

Note: Please refer to Department of Music requirements in this catalog for recital and ensemble requirements. *These courses are included in general education.

Physical Education—Men (Composite major only):

36½-38½-Hour List (Dominant subject):

P.E. 180, 181, 182; five of the following: 231, 232, 233, 234, 235, 236, 237; 286, 201 or 330; three of the following: 370, 371, 372, 373, 374; 314, 344, 378 (men), 413, 446, 449, 464, and Health 381.

28-Hour List (Dominant subject):

P.E. 180, 181, or 182, 201; five of the following: 231, 232, 233, 234, 235, 236, 237; 341, 344; two of the following: 370, 371, 372, 373, 374; 378 (men), 413, 446, 464, and 314 or 449.

20-Hour List (Related subject):

P.E. 180, 181, or 182, 235; two of the following: 231, 232, 233, 234, 236, 237; three of the following: 370, 371, 372, 373, 374; 201 or 330, 314, 341, 344.

Other related areas which may be selected as part of men's physical education composite are: recreation, health, driver and safety education. These related lists are alphabetized elsewhere in this section.

Physical Education—Women (Composite major *42-58 hours only)

28-Hour List (Dominant subject):

P.E. 160, 173, 181, 182 or 184, 187, 188, 241, 242, 243, 244, 245, 280, 330, 341, 344, 375 or 376, 378, 446.

14-Hour List (Dance-related subject):

Two courses selected from P.E. 281, 282, 283, 284, 285, 287, 288, 380, 383, 384, 387, 388, 484.

Other related areas which may be selected as part of women's physical education composite are: recreation, health, driver and safety education. These related lists are alphabetized elsewhere in this section.

***Note:** For the student who takes the 42-hour physical education composite an academic teaching minor is strongly recommended.

Physics: (See also MA-3 programs in Physics Department.)

25-Hour List (Major): 211, 212, 213, 214, 300, 315, 316, 321, 341.

17-Hour List (Minor, dominant or related subject): 211, 212, 213, 214, 300, 315, 316.

Political Science:

30-Hour List (Major):

110, 300; two out of three of the following: 111, 150, 170; and 18 hours including one course from each of the following groups: (1) 302 (401, 403, 406, 464, 503)*; (2) 310, 315, 320, 321, 322, 510; (3) 330 (531, 532, 533, 535, 536, 537, 538, 539)*; (4) 350, 351, 352, 355, 356, 357, 358, 456, 457; (5) 360, 361, 365, 563, 575; (6) 370, 371, 375, 572, 575, 580.

***Note:** Courses in parentheses may be substituted only with permission of department chairman.

20-Hour List (Minor):

110, 111, 150 or 170; 11 hours including at least one class in each of four of the following groups: (1) 302; (2) 310, 315, 320, 321, 322, 510; (3) 330; (4) 350, 351, 352, 355, 356, 357, 358, 456, 457; (5) 360, 361, 365, 575; (6) 370, 371, 375, 575.

Psychology:

30-Hour List (Preprofessional major): 111*, 321*, 360*, 365*, 370*, 374, 378*, 491, 540*; the remaining hours selected from any other psychology course (with the exception of 340) and Tchr. Ed. 304.

30-Hour List (General culture major): 111, 185, 311 (or 360 and 365), 321, 350 or 357, 450, 460, 491, 540; the remaining hours selected from any other psychology course (with the exception of 340) and Tchr. Ed. 304.

20-Hour List (Minor, dominant, or related subject): 111, 311 (or 360 and 365), 321, 450 or 540; the remaining hours selected from any other psychology course.

*Required on the undergraduate level for the school psychologist program.

Note: To complete professional education requirements, the students should complete Tchr. Ed. 304 and Psych. 321 rather than Tchr. Ed. 403.

Recreation Education: (Physical education—for composite majors using recreation courses)

12-Hour List (Related subject): 301, 337, 387, 407 or 123 or 388, 505.

16-Hour List (Related subject): 301, 337, 371 or 388, 387, 407, 410, 505.

20-Hour List (Related subject): 123, 301, 337, 371 or 388, 387, 407, 410, 505, and 3 hours of approved electives.

Russian:

31-Hour List (Major): 201, 211, 301, 311, 312, 321, 322, 326, 441, 442, 445.

20-Hour List (Minor): 201, 211, 301, 311, 445, 321, 326.

Note: It is strongly recommended that teaching majors take Ling. 325. All students who intend to qualify for a teaching certificate must take Russian 377.

Note: Classes up to and including Russian 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Certification Office.

Sociology:

30-Hour List (Major): 111, 112, 220 A or B, 397, 404, 405, 491, and 512 and the remaining hours selected from any other sociology course.

20-Hour List (Minor, dominant or related subject): 111, 112, 405, and the remaining hours selected from any other sociology course.

Spanish:

31-Hour List (Major): 201, 301, 321, 322, 326, 441, 445, 451; plus six hours selected from other Spanish classes beyond 301. Ling. 325 will also be acceptable.

19-Hour List (Minor): 201, 301, 321, 326, 441 or 451, 445.

Note: It is strongly recommended that teaching majors and minors who have not had foreign residence or participated in a Semester Abroad Program take the Spanish 311 course, if it is not already listed as required. It is also strongly recommended that teaching majors take Ling. 325. All students who intend to major in Spanish must take Spanish 377. This class is highly recommended for language minors.

Note: Classes up to and including Spanish 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Certification Office.

Speech:

See course requirements listed under Dramatic Arts.

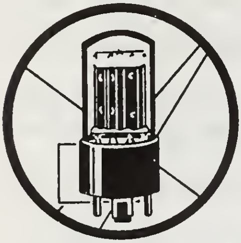
Zoology:

36-37-Hour List (Major): 212, 213, 230, 363, 372, 376, 385, 451, 465; plus one of the following options: (a) 343, 345, 346, 347, or (b) 370, 373.

17-18-Hour List (Minor): 212, 230, 261, 262, or 263, 343 or 345, 346 or 347, 372.

Note: Prospective biology teachers should complete either a zoology major and a botany minor or a botany major and a zoology minor. Bot. 377 and 479 are required for certification of all prospective biology teachers.

Technical Institute



Professors: Jeppsen (director, 120 Social Hall), McArthur, Gunn, Smith.

Associate Professors: Dean, Monson, Wallentine.

Assistant Professors: Holt, Hubbard, Knight, McKinnon, Pett.

Instructors: Hartman, Jenkins, Long, Naegle, Pratt, Schow, Spencer, Tolman, Wright.

Note: Instructors in the Technical Institute are drawn from a number of other departments of the University.

The Technical Institute, a major division of the College of Industrial and Technical Education offers, in cooperation with other departments on the University campus, associate degree programs of higher education for young men and women to prepare them for employment in technical and preprofessional areas of business, industry, and government. These programs are particularly planned for those students desiring to spend only two years at the University; however, graduates of these programs may continue to work toward the baccalaureate degree.

The Technical Institute provides carefully balanced programs of approximately fifty percent general education courses and fifty percent specialized courses in the major area. Whether in general education or the technical specialty, these courses are of university level, and taught by experienced university faculty with advanced technical training and years of successful experience in their respective occupations. Classes are held in modern classrooms and well-equipped laboratories. These programs are designed to develop successful and productive citizens with a constructive philosophy of life.

Currently offered are the following associate degree programs:

Associate degree in family living

Associate degree in nursing (R.N.)

Business for general business and secretarial technicians

Commercial Art for commercial art and advertising technicians

Data Processing for business and industrial technicians

Engineering for chemical, civil, electrical, electronics, and mechanical technicians

Genealogical Research for genealogical research technicians

General Agriculture for agricultural and farm management technicians

Industrial for drafting, graphic arts, building construction, tool design, and welding technicians

Library for librarians and library technicians

Photography for photographic and communication technicians

Piano for piano technicians in business and industry

Radio-Television for telecommunications and broadcasting technicians

Entrance Requirements

Requirements for admission to the Technical Institute of the College of Industrial and Technical Education are the same as those for admission to the University listed in the Student Academic Services Section of this catalog. Students enrolling in engineering technology might find it necessary in order to complete the required curriculum without loss of time to have successfully completed three years of high school English and two years of mathematics including algebra and geometry; also, it would be helpful to have completed one year of physical science, preferably physics. Students having deficiencies in these requirements should consult their program advisers for remedial courses.

Graduation

Upon completion of a two-year curriculum, the associate of science degree will be awarded at the regular University graduation exercises. Requirements for this degree include a minimum of 64 semester hours of credit, with a major of 30 credits or more and the following credits in general education: English, 6; American history, 3; health, 2; physical education, 1; and religion, 2 per each semester in residence. Of the total of 64 credits at least 20 must be in residence; a total of 12 credits may be taken by correspondence. A maximum of 10 "D" credits can be accepted, but a cumulative grade-point average of 2.00 or above is required. Students completing one of these programs may, if they desire, continue their work toward a baccalaureate degree.

ASSOCIATE DEGREE PROGRAM IN FAMILY LIVING

Supervisor: Tanfield Brooks

This two-year program leading to an associate degree is planned for students desiring to make a profession of homemaking, and at the same time develop abilities that may be put to use in occupational fields. Employment opportunities are available in nursery schools, clothing and food industries, and housing and homemaking services. For the departmental requirements, students may choose courses in one department or from all departments in the College of Family Living. Upon the completion of this program, students might find it profitable to transfer to a four-year program leading to the baccalaureate degree in family living.

General Education Requirements

Engl. 111, 112	6
Hist. 170	3
Health 130	2
P.E.	1
Undergrad. relig. (including 121, 122)	8
Humanities	3
Biological science	3
Physical science	3
Social science	3
Total Semester Hours	32

Departmental Requirements

Select courses listed in the following departments:
- Clothing and Textiles
- Food and Nutrition
- Housing and Home Management
- Child Development and Family Relationships

Total Semester Hours 32

ASSOCIATE DEGREE PROGRAM IN NURSING

Lottie Felkner, Director (L.D.S. Hospital, Salt Lake City, Utah)
Adviser: Beulah Swensen

This two-year curriculum is based upon a philosophy of education for service in the field of nursing. It consists of carefully planned and selected fundamental experiences which students need to become competent nursing practitioners. The program prepares graduates to take the State Board Test Pool Examination for licensure in Utah as registered nurses (R.N.).

Following are two curriculum plans. Students can enter Plan A in the fall or Plan B in the summer. Plan B will be followed by a one-semester internship prior to the State Board Examinations.

CURRICULUM PLAN A

First Year	F	S	Su
Engl. 111	3		
Chem. 100	2		
Chem. Lab. 104	1		
Bact. 121	3		
Undergrad. Relig. 121	2		
Food & Nutr. 115	2		
Psych. 111	3		
P.E.	½		½
Fundamentals of nurs., Nurs. 223		8	
Zool. 261, Lab. 262		5	
CDFR 210		3	
Physical & Mental Illness I, Nurs. 224			9
Undergrad. Relig. 122			2
Total Hours	16½	16	11½

Second Year	F	S	Su
Maternal & Child Health, Nurs. 225	8		
Sociol. 111	3		
Undergrad. Relig. 211	2		
Engl. 112	3		
Physical & Mental Illness II, Nurs. 226		9	
Undergrad. Relig. 212		2	
Hist. 170		3	
Total Hours	16	14	

CURRICULUM PLAN B

First Year	Su	F	S
Chem. 100	2		
Chem. Lab. 104	1		
Engl. 111	3		
Bact. 121	3		
Undergrad. Relig. 121	2		
P.E.	½		
Fundamentals of nurs.		8	
Food & Nutr. 115		2	
Zool. 261, Lab. 262		5	
Undergrad. Relig. 122		2	
Physical & Mental Illness I, Nurs. 224			9
Psych. 111			3
Undergrad. Relig. 211			2
CDFR 210			3
Total Hours	11½	17	17

Second Year	Su	F	S*
Maternal & Child Health, Nurs. 225	8		
Sociol. 111	3		
P.E.	½		
Physical & Mental Illness II, Nurs. 226		9	
Undergrad. Relig. 212		2	
Engl. 112		3	
Hist. 170		3	
Total Hours	11½	17	

*Internship

BUSINESS TECHNOLOGY

Supervisor: Larry Hartman

Office and secretarial workers and persons with general business training are in great demand in the employment market. Virtually every type of industry employs clerical workers since office work is such an integral part of every business. In addition to this widespread utilization of office workers there is a high turnover rate which further accentuates the need for new employees. Despite the use of more and more labor-saving equipment and increased efficiency in office procedure there will be a continued demand in the future for people with this type of training.

BUSINESS TECHNICIAN

Adviser: Ernest Dee Hubbard

Competent individuals with general business experience are in demand in business, industry, and government. The complexity of modern business and government has increased the need for personnel with a more general type of training. The following two-year associate degree program prepares students for positions in various business organizations.

First Year

	F	S
Acctg. 201, 202	3	3
Bus. Ed. 101, Biol. sci.	2	3
Bus. Ed. 206, hum.	2	3
Math. 108, Health 130	3	2
Engl. 111, 112	3	3
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
Total Hours	15½	16½

Second Year

	F	S
Bus. Ed. 305, 320	3	3
Hist. 170, Acctg. 232	3	3
Phys. sci., Acctg. 342	3	3
Econ. 111, 112	3	3
Comput. Sci. 201		2
Elective	2	
Undergrad. relig.	2	2
Total Hours	16	16

SECRETARIAL TECHNICIAN

Adviser: Larry Hartman

Secretarial technician training is specific preparation toward a business career. Graduates of this program are employed as private secretaries, executive secretaries, receptionists, and stenographers. They are highly skilled in shorthand, typing, filing, and office procedures, and have a good background in general education. Students who have achieved the highest success in this program are high school graduates with a good background in English, social sciences, and general education.

The following associate degree program is designed to prepare students in two years for efficient, profitable service in this field.

First Year

	F	S
Bus. Ed. 112*, 113	4	4
Bus. Ed. 203*, 204	2	2
Bus. Ed. 206, Hum.	2	2
Engl. 111, 112	3	3
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	15½	16½

Second Year

	F	S
Bus. Ed. 211, 275	4	4
Bus. Ed. 220	3	
Bus. Ed. 485, Bus. Mgt. 205	1	2
Econ. 101 or 111, Acctg. 201	3	3
Phys. sci., biol. sci.	3	3
Electives		2
Undergrad. relig.	2	2
Total Hours	16	16

*Assumes beginning typewriting and beginning shorthand have been taken in high school. If not already completed, these beginning classes must be added to student's schedule.

COMMERCIAL ART TECHNICIAN

Supervisor: Richard L. Gunn

Commercial art technicians are widely employed in modern business and industry. They do hand painting of patterns for industry and business, sketch ideas for fashion illustrations and window displays, or do lettering and decorating work. Commercial art technicians find employment in factories, advertising agencies, department stores, art display and textile studios, and printing and publishing establishments. They are trained in drawing, layout and design, and in applying these techniques through various media used in commercial art. Specialized training and experience are offered in the following two-year associate degree program.

First Year

	F	S
Art 120	3	
Art 121, 122	3	3
Art 227 or 233, 250	2	2
Art 239, 321	2	2
Engl. 111, 112	3	3
Health 130		2
Indus. Ed. 250		2
P.E.	½	½
Undergrad. Relig. 121, 122	2	2
Total Hours	15½	16½

Second Year

	F	S
Art 310, Commun. 330	2	2
Art 322, Indus. Tech. 351	2	3
Art 341, Hist. 170	3	3
Art 343, 342	2	2
Art 344, 449A	2	3
Phys. sci., biol. sci.	3	2
Undergrad. relig.	2	2
Total Hours	16	17

DATA PROCESSING TECHNICIAN

Supervisor: C. Edwin Dean

The use of digital computers is becoming more and more widespread in all types of business and accounting procedures, in mathematical analysis, and in control of many industrial and commercial processes. It also has capabilities ranging from simple automatic monitoring and recording to complete computer control of complex industrial operations.

Because of this widespread use of digital computers and a growing need for trained technicians in this field, students should be trained in the fundamentals of the operation of digital computers, the procedures for programming these machines, and application of these machines to all types of usage. The programming technician should be an important member of the computer team in developing, operating, and increasing the use of automation in industry and should find himself in a favorable position for desirable employment.

The following associate degree program is designed to prepare students for successful entrance into occupations of this type.

First Year

	F	S
Comput. Sci. 201, Acctg. 201	2	3
Math. 111, Econ. 101	5	3
Engl. 111, 112	3	3
Commun. 101, Speech 102	2	2
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	17

Second Year

	F	S
Comput. Sci. 331, 431	3	3
Stat. 221, 330	3	3
Acctg. 202, 355 or 456	3	3
Engr. Tech. 101, 102	3	3
Math. 112, biol. sci.	5	3
Undergrad. relig.		2
Dev. assy.	½	½
Total Hours	17½	17½

ENGINEERING TECHNICIANS

Supervisor: G. Albert Spencer

Engineering technicians follow programs similar to, but briefer than those followed by professional engineers. These programs prepare students to become production and construction supervisors, foremen, inspectors, laboratory technicians, and engineering aides. Students gain an understanding of the basic principles of mathematics and science and are able to supervise skilled craftsmen in production and construction. B.Y.U. offers programs for engineering technicians in chemical engineering, civil engineering, electrical engineering, electronics engineering, and mechanical engineering.

CHEMICAL ENGINEERING TECHNICIAN

Supervisor: G. Albert Spencer

Because the chemical industry supplies raw materials to almost every other industry, the largest number of chemical technicians and engineers are employed in research, in developing new products—pharmaceuticals, insecticides, fabrics, plastics, metals, alloys, ceramics, fuels—and in finding new uses for products we already have. The chemical technician must be able to perform routine tests for highly analytical tasks; use mathematical and chemical formulas; assemble and work with intricate laboratory equipment; make accurate measurements and computations; and may supervise the work of others engaged in these tasks. The associate degree program outlined below prepares men and women for the many job opportunities offered by the chemical industry.

First Year	F	S
Chem. 105, 106	4	4
Math. 121, 122	3	3
Engl. 111, 112	3	3
Engr. Tech. 100, Physics 105	1	3
Hist. 170, Health 130	3	2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	17½

Second Year	F	S
Chem. 221, 404	3	1
Ch. E. 271		1
Math. 223, 311	3	3
Indus. Tech. 335, Indus. Ed. 240	4	3
Drafting 111, Engr. Tech. 252	3	3
Hum., biol. sci.	2	3
Undergrad. relig.	2	2
Total Hours	17	16

CIVIL ENGINEERING TECHNICIAN

Adviser: G. Albert Spencer

Civil engineering technicians are trained in the practical aspects of civil engineering. They must know how to prepare detailed plans and blueprints, estimate costs and materials needed; use the transit, level, and other surveying instruments; prepare maps and specifications; supervise construction work, and inspect jobs for conformance to specifications. They become members of the engineering team to aid the civil engineer in designing, constructing, and maintaining civil engineering projects. The following associate degree program consists of basic engineering courses arranged so that the students receive a maximum of practical instruction early in their major field of study.

First Year	F	S
Engr. Tech. 100	1	
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170		3
Drafting 111	3	
Physics 105, 106	3	3
Health 130		2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	16	17

Second Year	F	S
Engr. Tech. 205, 206	3	3
Hum., Engr. Tech. 211	2	3
Engr. Tech. 212		2
Engr. Tech. 213		2
Engr. Tech. 216, 214	4	2
C.E. 211, 212	3	2
Math. 223	3	
Engr. Tech. 252		3
Undergrad. relig.	2	
Dev. assy.	½	½
Total Hours	17½	17½

ELECTRICAL ENGINEERING TECHNICIAN

Adviser: G. Albert Spencer

Electrical engineering technicians are trained in the practical aspects of electrical engineering and are prepared to assist electrical engineers with the more detailed work of their profession. They work as electrical power technicians in power plant operation, power transmission, and distribution; manufacturing of electrical machinery; design and construction of commercial and industrial power systems; and electrical inspecting, estimating, and drafting. They find employment with electrical power generating and distributing companies, telephone companies, government installations, defense plants, and business and industrial concerns. The following associate degree program provides students with a maximum of practical training to effectively fill the position of an electrical engineering technician.

First Year

	F	S
Engr. Tech. 100, 228	1	3
Engr. Tech. 101, 102	3	3
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170, Physics 105	3	3
Health 130	2	
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	17½	17½

Second Year

	F	S
Engr. Tech. 221, 222	3	3
Engr. Tech. 223, 224	3	3
Engr. Tech. 225, 226	2	2
Engr. Tech. 241, 242	3	3
Math. 223, Physics 106	3	3
Humanities	2	
Undergrad. relig.	2	2
Total Hours	18	16

ELECTRONICS ENGINEERING TECHNICIAN

Adviser: Boyd G. Pett

Electronics engineering technicians are prepared to assist engineers with practical and detailed work in communications equipment, computers, and navigational aids; instrumentation, industrial controls, and medical equipment; guided missiles, jets, and atomic power; radio, television, and aviation equipment; industrial process controls, and automatic manufacturing methods. This associate degree program includes the study of electronic theory and circuits; electron tubes, transistors, servo-mechanisms; and radio and television fundamentals. It is designed to give basic technical training necessary to place the student in the role of a successful electronics engineering technician.

First Year

	F	S
Engr. Tech. 100, 228	1	3
Engr. Tech. 101, 102	3	3
Math. 121, 122	3	3
Engl. 111, 112	3	3
Hist. 170, Physics 105	3	3
Humanities	2	
Undergrad. Relig. 121, 122	2	2
Dev. assy.	½	½
Total Hours	17½	17½

Second Year

	F	S
Engr. Tech. 221, 222	3	3
Engr. Tech. 231, 232	4	4
Engr. Tech. 235, 234	4	2
Engr. Tech. 237		2
Math. 223, Physics 106	3	3
Undergrad. relig., Health 130	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	17

MECHANICAL ENGINEERING TECHNICIAN

Adviser: G. Albert Spencer

The increase in automation in all types of industry today is creating more and more need for trained mechanical technicians to work in design, production, installation, and operation of machines, tools, and all types of metal devices and products. Technicians are also needed in design, construction, and operation of machines and plants that produce power from coal, oil, gas and nuclear fuels as well as the machines that use this power. The following associate degree program is designed to give the student basic technical training to qualify him for the above positions.

First Year

	F	S
Engr. Tech. 100, Physics 105	1	3
Indus. Ed. 130, Indus. Tech. 131	2	3
Math. 121, 122	3	3
Drafting 111	3	
Engl. 111, 112	3	3
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	18

Second Year

	F	S
Engr. Tech. 205, 206	3	3
Engr. Tech. 241, 242	3	3
Physics 106, Engr. Tech. 216	3	3
Indus. Tech. 230, 231	3	3
Math. 223, Indus. Ed. 240	3	3
Undergrad. relig., hum.	2	2
Dev. assy.	½	½
Total Hours	17½	17½

ENGINEERING TECHNOLOGY

Courses

100. **Orientation in Technology.** (1:1:0) F.S. Jeppsen
Introduction to the fields of industrial and engineering technology.

101, 102. **Basic Electricity.** (3:2:3 ea.) F.S. (m) Holt
Elementary theory of electricity including direct and alternating current circuits and magnetism, basic theory of electron tubes and transistors.

161. **Broadcasting Fundamentals.** (3:3:0) S. Prerequisite: completion of or concurrent registration in Engr. Tech. 102.

Introduction to broadcasting fundamentals. Emphasis will be placed on system concepts utilized in broadcasting and the application of these systems to specific broadcasting situations and their general performance. In addition, the student will be prepared to pass the Third Class Radio-Telephone FCC license examination.

202. **Contracts and Specifications.** (2:2:0) S. (m) Spencer
Preparation and interpretation of engineering and construction contracts and specifications.

205, 206. **Engineering Materials.** (3:2:3 ea.) F.S. Prerequisite: Math. 122.
A survey of the materials used in engineering structures and machines. The physical properties of these materials, with emphasis on concrete, aggregates, wood, and steel. Laboratory testing of these materials for purposes of classification and field control.

208. **Construction Methods and Equipment.** (3:3:0) S. Prerequisites: Math. 121, Physics 105.

Construction methods and machinery including inspecting, estimating, and scheduling procedures.

211. **Structural Technology.** (3:2:3) S. Prerequisites: Math. 223, Engr. Tech. 216.
Introduction to the principles of analysis and design of timber, steel, and masonry structures.

212. **Water Resources Technology.** (2:1:3) S. Prerequisites: Math. 122, Physics 106.

Introduction to basic considerations related to water resources for both domestic and irrigation use. Measurement of flow and other elementary hydraulic principles. Laboratory tests used in water and sewage treatment.

213. **Soil Testing Technology.** (2:1:3) S. Prerequisites: Math. 122, Physics 106.

Introduction to the techniques of soil testing, including identification, classification, permeability, consolidation, and shear.

214. **Highway Technology and Materials.** (2:1:3) S. Prerequisites: Math. 122, Physics 106.

Highway transportation fundamentals. Construction and maintenance of highways and streets. Laboratory work in testing procedures.

216. **Applied Mechanics.** (4:3:3) F. Prerequisites: Math. 122, Physics 106.

Introduction to statics, strength of materials, and dynamics. Elementary principles of structures, stresses in bending and torsion, and basic concepts of kinematics and kinetics. Application to engineering problems.

221. **Electrical Machines.** (3:2:3) F. (m) Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Spencer

Fundamentals of direct and alternating current machinery including motors, generators, transformers, their control and operation.

222. **Electrical Control Systems.** (3:2:3) S. (m) Prerequisite: Engr. Tech. 221. Spencer

A continuation of the study of electrical machines with emphasis on industrial electronic control systems.

223, 224. **Electrical Power.** (3:2:3 ea.) F.S. (m) Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Spencer

Generation, transmission and distribution of electric power; electrical and mechanical analysis of power systems; lighting and fuse protection.

225, 226. **Practical Wiring and Illumination.** (2:2:0 ea.) F.S. Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Spencer

Design of low voltage power systems for residential, commercial, and industrial projects. Basic principles of illumination including layout and design of lighting systems for commercial buildings, roadways, and manufacturing plants.

228. **Electrical Drawing.** (2:1:3) S. Prerequisites: Engr. Tech. 101 and 102. Holt

Drafting techniques and drawing types used in the design, construction, installation, and maintenance of electronic equipment: military standards, schematics, chassis layout, and printed circuits.

231, 232. **Electronics.** (4:3:3: ea.) F.S. (m) Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Pett

Advanced study of vacuum tube circuits used in commercial and industrial systems. Units include rectifiers, amplifiers, oscillators, modulators, detectors, and automatic controls.

234. **Electrical Trouble Shooting.** (2:1:3) S. Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Pett

Maintenance and service of electronic equipment, trouble shooting techniques, and the use of electrical measuring and testing devices.

235. **Transistors, Servos, and Magnetic Amplifiers.** (4:3:3) F. Prerequisites: Math. 122, Physics 106, Engr. Tech. 102. Pett

The action of transistors and their operation in amplifiers, oscillators, multivibrators, switching and pulse-forming circuits.

237. Electronic Instrumentation. (2:2:0) S. Prerequisites: Math. 223, Physics 106, Engr. Tech. 102. Pett

The design and application of basic instrumentation to automated manufacturing and control processes.

241. Elementary Heat Power. (3:2:3) F. Prerequisites: Math. 122, Physics 106. Spencer

Basic laws of thermodynamics; properties of systems; properties of gases, liquids, and vapors; pressure-volume and temperature-entropy planes; fuels and combustion, and heat transfer.

242. Power Plants. (3:2:3) S. Prerequisites: Math. 122, Physics 106. Spencer

Classification, performance, capacity, and details of boilers and their auxiliaries and accessories; applications of steam power; work, energy, and efficiencies of engines and turbines; and hydroelectric power.

252. Computer Applications. (3:2:2) Prerequisite: Math. 223.

Programming and application of computers to automation, graphics, production scheduling, critical path scheduling, and numerically controlled machines.

261. AM-FM Broadcasting Systems. (3:2:3) F. Prerequisite: completion of, or concurrent registration in Engr. Tech. 231.

Circuit fundamentals of audio and RF systems used in studio and transmitter design in AM and FM stations. In addition, the student will be prepared to pass the First Class Radio-Telephone FCC license examination. Laboratory work will include practical experience in the utilization of equipment.

262. Television Circuits and Practices. (3:2:3) S. Prerequisite: completion of, or concurrent registration in Engr. Tech. 261.

Fundamentals of television circuits including studio generating and control equipment, television cameras, film chains and video tape recorders. Laboratory work will include practical experience in the utilization of equipment.

331. Advanced Electronics. (3:3:0) S. Prerequisites: Engr. Tech. 231, 235; completion of or concurrent registration in Engr. Tech. 232 and 237. Pett

Transistor and vacuum tube pulse and switching circuits for radar, computer, and guided missile applications.

GENEALOGICAL RESEARCH TECHNICIAN

Supervisor: Norman Edgar Wright

Recent years have shown an important change of attitude toward genealogy as an accepted field of study on a university level. Not only is it a valuable study of man and the family unit but the broader implications include its benefit to the sociologist, the historian, and the individual who desires a liberal education.

In keeping with the emphasis on genealogy, Latter-day Saints should be well informed concerning scientific genealogical research and its relationships to salvation for the dead. The University is taking the lead in providing a sound program for the professional researcher, the Church member, and the general public who desire self improvement. Competent researchers and teachers are in demand, not only in the Church but also in libraries, archives, societies, and family associations for professional work.

The following associate degree program is designed to prepare genealogical research technicians for North American research and similar programs can be outlined for British, Continental European, Latin-American, Asian, and Polynesian research. Students majoring in other fields might well consider genealogy as their minor, if approved by their major department.

First Year

	F	S
Undergrad. Relig. 261	2	
Geneal. Tech. 265, 266A	3	3
Geneal. Tech. 270, 271B	3	3
Engl. 111, 112	3	3
Hist. 170, Health 130	3	2
Biol. sci.		3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	17

Second Year

	F	S
Geneal. Tech. 266B, 295	3	4
Geneal. Tech. 271A, 294	3	2
Lib. Sci. 370	3	
Phys. sci.	3	
Indus. Ed. 377		3
Soc. sci., hum.	3	3
Bus. Ed. 101, 220	2	3
Dev. assy.	½	½
Total Hours	17½	15½

Courses

☐**Undergrad. Relig. 261. Introduction to Genealogy.** (2:2:0) F.S.Su. (G-R m)

265. North American Genealogical Research. (3:3:0) F.S.Su. Home Study also. (G-SS m) Prerequisite or concurrent: Undergrad. Relig. 261. Wright

Genealogical research methods, procedures, and background peculiar to North America.

266A,B,C. North American Genealogical Sources. (3:3:0 ea.) F.S.Su. Home Study also. (m) Prerequisite: Geneal. Tech. 265. Wright

Critical analysis of genealogical records and sources peculiar to New England and Middle Atlantic States, Southern and Midwestern States, Far-Western States and Canada.

270. British Genealogical Research. (3:3:0) F.S.Su. Home Study also. (G-SS m) Prerequisite or concurrent: Undergrad. Relig. 261. Pratt

Genealogical research methods, procedures, and background peculiar to Great Britain and the Commonwealth (except Canada).

271A,B,C. British Genealogical Sources. (3:3:0 ea.) F.S.Su. Home Study also. (m) Prerequisite: Geneal. Tech. 270. Pratt

Critical analysis of genealogical records and sources peculiar to Medieval Britain; Modern England and Wales; Scotland, Ireland, and the Commonwealth.

275. Continental European Genealogical Research. (3:3:0) F.S.Su. (G-SS m) Prerequisite or concurrent: Undergrad. Relig. 261.

Genealogical research methods, procedures, and background peculiar to Europe (except Great Britain).

276A,B,C. Continental European Genealogical Sources. (3:3:0 ea.) F.S.Su. (m) Prerequisite: Geneal. Tech. 275.

Critical analysis of genealogical records and sources peculiar to Scandinavia, Northern Europe, and Southern Europe.

280. Latin-American Genealogical Research. (3:3:0) S. (Offered 1967-68 and alternate years) (m) Prerequisite or concurrent: Undergrad. Relig. 261. Pratt

Genealogical research methods, procedures, and background peculiar to Latin America.

285. Asian Genealogical Research. (3:3:0) F. (Offered 1967-68 and alternate years) (m) Prerequisite or concurrent: Undergrad. Relig. 261.

Genealogical research methods, procedures, and background peculiar to Asia.

290. Polynesian Genealogical Research. (3:3:0) S. (Offered 1967-68 and alternate years) (m) Prerequisite or concurrent: Undergrad. Relig. 261. Wright

Genealogical research methods, procedures, and background peculiar to Polynesia.

294. Paleography and Heraldry. (2:2:0) S. (m) Prerequisite: Undergrad. Relig. 261. Pratt

History and development of English handwriting with practical application in reading variations of court and secretary handwriting of early England and the Colonies, with a study of heraldry and its general value to the genealogist and historian.

295. Applied Research Seminar. (4:2:6) S.Su. Prerequisite: consent of instructor.

Practical application of genealogical research using the facilities of the L.D.S. Genealogical Society to solve selected genealogical problems in the major geographical areas of the world.

Note: For additional genealogical courses, see Undergrad. Relig. 261 and 262.

GENERAL AGRICULTURE TECHNICIAN

Supervisor: Max V. Wallentine

Agriculture is a highly competitive production field. The modern farmer or rancher, to show a profit, must understand agricultural economics and must know the latest methods of crop and livestock production and farm management.

For those who are unable to complete the four-year professional agriculture program, a two-year course is offered in basic agriculture. Should the student later decide to complete the four-year program, these courses may be counted toward the baccalaureate degree.

First Year

	F	S
An. Sci. 120, 208 or 161	3	
Health 130, An. Sci. 153	2	3
Bot. 101, Zool. 105	3	3
Hort. 101		3
Engl. 111, 112	3	3
Soc. sci., hum.	3	2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	16½

Second Year

	F	S
Agron. 151, 282	4	3
Agr. Econ. 325, 112	3	4
An. Sci. 207		3
Chem. 101, 102	5	5
Hist. 170	3	
Undergrad. relig.	2	2
Total Hours	17	17

INDUSTRIAL TECHNICIANS

Supervisor: Ross "J" McArthur

Our present industrial and technological economy requires industrial technicians as well as engineering technicians. Industrial technicians serve the industrial occupations in a manner similar to the way engineering technicians serve the engineering occupations.

Industrial technicians assist with technical details in industrial occupations. They use tools, instruments, and/or special devices to design, illustrate, fabricate, maintain, operate, and test objects, materials, or equipment; examine and evaluate plans, designs, and data; interpret work procedures and maintain harmonious relationships among groups of workers.

To meet the need for trained industrial technicians for industry, the following curricula are provided.

DRAFTING TECHNICIAN

Adviser: Wilford J. Tolman

This associate degree program prepares students for positions as architectural or mechanical drafting technicians. Drafting technicians are generally in demand in all areas of scientific research and engineering development. Employment opportunities are available in industry, architects' offices, and governmental agencies.

First Year

	F	S
Drafting 111, 156	3	2
Math. 121, 122	3	3
Engl. 111, 112	3	3
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
Hum., biol. sci.	3	3
P.E.	½	½
Engr. Tech. 100	1	
Total Hours	17½	16½

Second Year (Architectural Drafting Option)

	F	S
Drafting 256, 356	3	3
Indus Ed. 100, Indus. Tech. 210	3	3
Indus. Tech. 218, Indus. Ed. 241	2	2
Hous. Home Mgt. 330	3	
C.E. 211		3
Physics 105, electives*	3	3
Undergrad. relig.	2	2
Total Hours	16	16

Second Year (Mechanical Drafting Option)

	F	S
Drafting 210, 311	3	3
Drafting 211, 410	2	3
Indus. Tech. 131	3	3
Indus. Tech. 231, Drafting 411	3	2
Physics 105, electives*	3	3
Undergrad. relig.	2	2
Total Hours	16	16

*Electives: Drafting 228 (3), Indus. Ed. 250 (2), Indus. Tech. 325 (2).

GRAPHIC ARTS TECHNICIAN

Supervisor: Ronda H. Jenkins

Printing is one of the major industries in our country today. It is vital to business and industrial organizations, civic and community organizations, and to the social, political, and economic life of our nation. Because of increasingly complex mechanized printing equipment in use today, there is a growing need for technically trained personnel in all areas of printing production and management. The Graphic Arts Technician Program, leading to the associate degree, prepares students for work in printing and publishing industries, governmental agencies, manufacturers of paper products, and private firms that do their own printing.

First Year

	F	S
Indus. Ed. 250, Indus. Tech. 351	2	3
Commun. 330, Physics 177	2	3
Art 110, Engr. Tech. 100	2	1
Drafting 111, Bus. Ed. 203	3	2
Engl. 111, 112	3	3
Health 130, Econ. 101	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	17½

Second Year

	F	S
Commun. 365, Indus. Ed. 494	2	3
Commun. 366, biol. sci.	2	3
Indus. Tech. 452, 453	5	5
Math. 121, Chem. 105	3	4
Hist. 170	3	
Undergrad. relig.	2	2
Total Hours	17	17

LIGHT BUILDING CONSTRUCTION TECHNICIAN

Adviser: Max E. McKinnon

This associate degree program is designed to prepare students to become successful building construction technicians. These technicians are trained in the construction of residential homes and small buildings, where new construction techniques and materials have made radical changes in the last decade. Initial employment for building construction technicians can be obtained as assistants to foremen and supervisors or as helpers to contractors and building specialists. Successful experience in this field leads to many opportunities, the more common of which include positions as building contractors, supervisors, estimators, inspectors, consultants, company managers, appraisers, and building materials salesmen.

The following two-year program will prepare students for service in this field.

First Year	F	S
Indus. Ed. 105, 100	2	3
Indus. Ed. 139, Indus. Tech. 218	2	2
Indus. Tech. 325, Engr. Tech. 100	2	1
Math. 121, Hist. 170	3	3
Engl. 111, 112	3	3
Health 130, biol. sci.	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	17½

Second Year	F	S
Indus. Tech. 210, 211	3	2
Indus. Tech. 317		2
Indus. Tech. 341		2
Physics 105, Indus. Tech. 411	3	3
C.E. 211, Indus. Tech. 301	3	3
Indus. Tech. 410, Drafting 156	3	2
Hum., soc. sci.	3	2
Undergrad. relig.	2	2
Total Hours	17	18

TOOL DESIGN TECHNICIAN

Adviser: Keith L. Naegle

This associate degree program offers comprehensive training for a career as a technician in tool design and construction. It is planned to give the student theoretical as well as practical education in design and use of jigs, fixtures, cutting tools, and other manufacturing equipment. Graduates should find employment as junior tool designers, engineering assistants, laboratory technicians, mechanical draftsmen, inspectors, estimators, or mechanical equipment salesmen.

First Year	F	S
Indus. Tech. 131, Physics 105	3	3
Drafting 111, 211	3	2
Math. 121, 122	3	3
Engr. Tech. 100, Health 130	1	2
Engl. 111, 112	3	3
Soc. sci., hum.	2	2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	18	18

Second Year	F	S
Indus. Tech. 231, 335	3	4
Engr. Tech. 216, Indus. Tech. 333	4	3
Drafting 210, Indus. Tech. 242	3	3
Special Prob. Metals		3
Physics 106, Indus. Tech. 325	3	2
Biol. sci., Hist. 170	2	3
Undergrad. relig.	2	
Dev. assy.	½	½
Total Hours	17½	18½

WELDING TECHNICIAN

Adviser: Lester Long

This associate degree program offers comprehensive training for the preparation of welding technicians for industry. It consists of theory and practice in oxy-acetylene, electric arc, resistance, Heliarc, and submerged arc welding. In addition, the program provides training in machine tool processes, metallurgy, technical drawing, and related general education.

Welding technicians are playing an increasingly important role in the manufacturing industries. With the emphasis on prefabrication, and with the rapid changes occurring in industry, welding has become very technical, requiring the service of individuals with training beyond that of the craftsman. Some of the newer opportunities available to the welding technician are welding foreman, leadman, supervisor, analyzer, inspector, research specialist, and welding equipment salesman.

The following two-year program will prepare the student for efficient and profitable service as a welding technician.

First Year	F	S
Indus. Tech. 120, 125	2	2
Indus. Tech. 325, 126	2	3
Engr. Tech. 100	1	
Drafting 111, Indus. Tech. 231	3	3
Engl. 111, 112	3	3
Math. 121, hum.	3	2
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	16

Second Year	F	S
Indus. Tech. 221, 226	5	5
Indus. Tech. 335, 227	4	3
Engr. Tech. 242	3	
Physics 105	3	
Hist. 170		3
Soc. sci., biol. sci.		4
Undergrad. relig., Health 130	2	2
Dev. assy.	½	½
Total Hours	17½	17½

LIBRARY TECHNICIAN

Supervisor: Hattie M. Knight

Many positions in modern-day libraries can best be filled by library technicians. These positions occur in circulation work, filing, cataloging, work with bibliographies, and reference work. Students completing the Library Technician Program are prepared to work in public, college, university, and industrial libraries, and in specialized research and information centers. Also, there is a trend toward adding library technicians to the school library staff. The shortage of librarians is critical and likely to remain so for some time. To meet the need for library technicians, the following associate degree curriculum is provided.

First Year	F	S
Lib. Sci. 111, 355	1	3
Lib. Sci. 363	3	
Engl. 111, 112	3	3
Bus. Ed. 101, 203	2	2
Health 130	2	
P.E.	½	½
Hum. 101 or 201		3
Soc. sci., elective	3	3
Undergrad. Relig. 121, 122	2	2
Total Hours	16½	16½

Second Year	F	S
Lib. Sci. 370, 466	3	3
Bus. Ed. 204, 220	2	3
Bus. Ed. 275	4	
Hist. 170		3
Tchr. Ed. 340 or Engl. 420		2
Tchr. Ed. 406	2	
Phys. sci., biol. sci.	3	3
Undergrad. relig.	2	2
Total Hours	16	16

PHOTOGRAPHIC TECHNICIAN

Supervisor: Oliver R. Smith

The two-year associate degree program in photographic technology is designed to prepare technicians for service on the staffs of newspapers, magazines, industrial departments, and commercial and portrait studios. Training is provided in both camera and darkroom techniques for still photography, along with supporting courses in communications, cinematography, advertising, design, and graphic arts.

First Year

	F	S
Commun. 101, 366	2	2
Art 120, hum.	2	2
Indus. Ed. 250, Indus. Tech. 453	2	5
Physics 177	3	
Engl. 111, 112	3	3
Health 130, Hist. 170	2	3
Undergrad. Relig. 121, 122	2	2
Total Hours	16	17

Second Year

	F	S
Commun. 211, 307	3	3
Commun. 365	2	
Commun. 367, 368	2	2
Commun. 371, 372	2	3
General ed.	5	5
Undergrad. relig.	2	2
P.E.	½	½
Total Hours	16½	15½

PIANO TECHNICIAN

Supervisor: Lynn H. Hansen

This associate degree program provides special preparation for students desiring to become piano technicians. Graduates from this program can qualify for employment as technicians in piano factories, music companies, schools, and governmental agencies, as well as self-employment. Students desiring to enter this program must satisfactorily pass the auditory perception test and secure the approval of the program supervisor.

First Year

	F	S
Mus. 101, 164	3	2
Mus. 163, 175	3	3
Math. 121, 122	3	3
Engl. 111, 112	3	3
Health 130, Physics 105	2	3
Undergrad. Relig. 121, 122	2	2
P.E.	½	½
Total Hours	16½	16½

Second Year

	F	S
Mus. 191, 193	2	2
Mus. 264, Hist. 170	2	3
Mus. 275, 276	3	4
Drafting 111, biol. sci.	3	3
Indus. Ed. 105, Soc. sci.	2	3
Physics 105	3	
Undergrad. relig.	2	2
Total Hours	17	17

RADIO-TELEVISION ENGINEERING TECHNICIAN

Supervisor: Darrel J. Monson

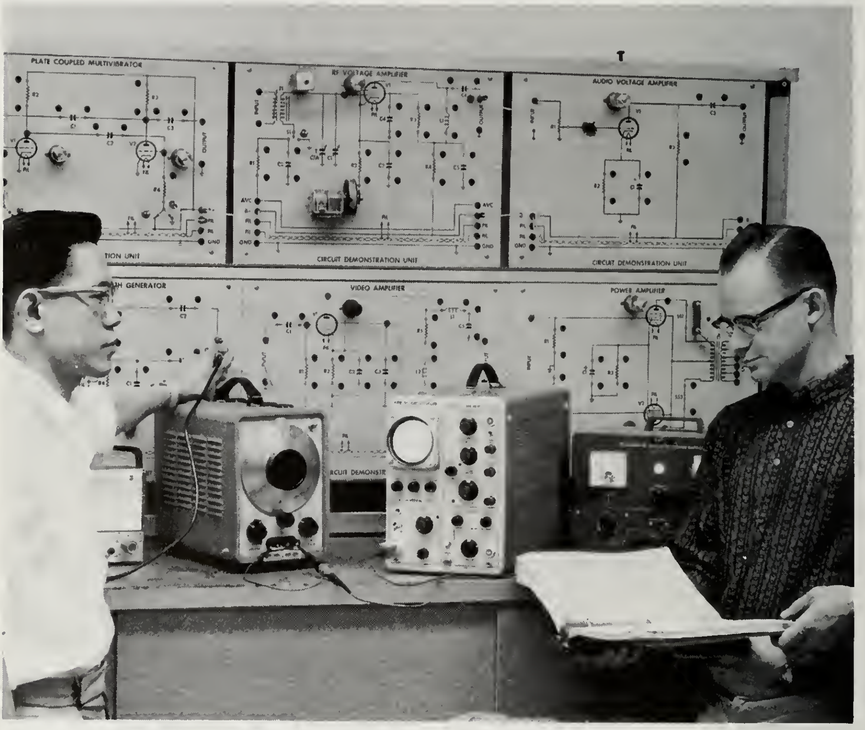
The rapid growth in radio and television has created a need for many trained personnel in the area of telecommunication. Communication specialists, engineers, and technicians are vitally needed to meet the expanding demands. Specialists in electronic technology trained in the maintenance and use of broadcasting equipment are sought widely throughout the country. The following curriculum is designed to give the training necessary to place the student in the role of a successful technician in the radio and television industry.

First Year

	F	S
Engr. Tech. 100, 161	1	3
Engr. Tech. 101, 102	3	3
Math. 121, 122	3	3
Engl. 111, 112	3	3
Physics 105, 106	3	3
Commun. 101	2	
Undergrad. Relig. 121, 122	2	2
Dev. assy.	½	½
Total Hours	17½	17½

Second Year

	F	S
Engr. Tech. 261, 262	3	3
Engr. Tech. 231, 232	4	4
Engr. Tech. 235, 234	4	2
Commun. 255		2
Math. 223, Hist. 170	3	3
Undergrad. relig.	2	
Health 130		2
P.E.	½	½
Dev. assy.	½	½
Total Hours	17	17



Student studying a problem in electronics

Youth Leadership

Associate Professor: Packer (chairman, 105 RB).

The Department of Youth Leadership provides a four-year program leading to a Bachelor of Science degree in youth leadership. It offers a definite curriculum designed to prepare men for careers as professional Boy Scout administrators and a broader program of general education and cultural and specialization courses calculated to help meet requirements for leadership in other youth agencies, public and private.

A second major objective of the department is to provide college men and women with knowledge, and experience in a variety of youth leadership areas so that they may better serve their church and community as volunteer youth leaders.

Degree in Youth Leadership
(Scout Executive Emphasis)

For a Bachelor of Science degree in youth leadership a student may complete the following courses:

Youth Ldrship. 172, 173, 174, 301, 302 ,305, 306, 332, 342, 375, 410, 412, 491, 492 .... 30 hours

Equivalent volunteer experience in the subject matter of these courses will allow the student to select, in consultation with the adviser, alternate courses in business management, public relations, journalism, speech, human relationships, sociology, and recreation.

Requirements for Youth Leadership Minor
(Scout Executive Emphasis)

For a minor in youth leadership, 14 hours should be selected from the following courses:
Youth Ldrship. 172, 173, 174, 332, 305, 306, 342, 412, 490, 491.

Four-Year Program for Scouting Emphasis

Freshman Year

	Hours
Dev. and for. assy.	2
Engl. 111, 112	6
Health 130	2
P.E.	1
Youth Ldrship. 172, 173	4
Speech 102	2
Commun. 255	2
Gen. ed. requirements	14
Total Hours	33

Sophomore Year

	Hours
Dev. and for. assy.	2
Hist. 170	3
P.E.	1
Rec. Ed. 337	2
Speech 305	3
Commun. 330, Bus. Ed. 220	4
Youth Ldrship. 174, 342	4
Gen. ed. requirements	16
Total Hours	35

Junior Year

	Hours
Dev. and for. assy.	2
Commun. 435	2
Bus. Mgt. 480, 481	2
Psych. 357, Sociol. 316	4
Youth Ldrship. 301, 302 (summer)	5
Youth Ldrship. 305, 332, 491, 492	8
Minor requirements and electives	11
Total Hours	34

Senior Year

	Hours
Dev. and for. assy.	2
Psych. 450, Sociol. 449	5
Bus. Mgt. 420, 455	6
Youth Ldrship. 306, 375, 410, 412, 490	12
Minor requirements and electives	9
Total Hours	34

Courses for Nonscouting Youth Agency Majors

Students preparing for a career in youth agencies other than scouting may complete 40 hours of credit including Youth Ldrship. 302, 305, 342, 332; 4 hours selected from the professional physical education series 231 through 236 for men; for women, 4 hours from P.E. 241 through 245; and 24 hours selected from the following:

Bus. Mgt. 480, 481. Executive Lectures. (1:1:0)

Bus. Mgt. 455. Promotional Strategy. (3:3:0)

Bus. Mgt. 420. Human Relations in Adm. I. (3:3:0) (m)

Bus. Ed. 220. Business Communications. (3:3:0).

Bus. Ed. 305. Principles and Method of Office Management. (3:3:0) (m).

Speech 102. Introduction to Public Speaking. (3:3:1)

Speech 305. Discussion and Conference Leadership. (2:3:0)

Speech 527. Story Telling. (2:2:0)

Sociol. 316. Social Control. (2:2:0).

Sociol. 357. Group Relations and Leadership. (3:3:0) (m).

Sociol. 383. Juvenile Delinquency. (2:2:0)

Sociol. 449. Community Organization - Action - Planning. (2:2:0) (m).

Rec. Ed. 337. Philosophy of Recreation. (2:2:0)

Rec. Ed. 371. Planning for Family and Neighborhood Recreation. (2:2:0) (m)

Rec. Ed. 387. Planning for Social Recreation. (2:2:0) (m)

Rec. Ed. 502. Camping Education. (2:2:0)

Rec. Ed. 505. Administration of Recreation. (3:3:0)

Commun. 211. Basic Reporting. (2:1:3) (m).

Commun. 255. Radio and Television. (2:2:2) (m).

Commun. 330. Introduction to Advertising. (2:2:0).

Commun. 435. Public Relations. (3:3:0) (m).

Psych. 450. Personality Development. (3:3:0)

Indus. Ed. 160 or 260. Handicrafts or Crafts. (3:1:5) (m)

Courses

172. Cub Scout Leadership. (2:2:0) S. (m)
Designed to teach the organization, administration, and purpose of Cub Scouting as a basic experience of the American home. Lecture, demonstration, and laboratory participation.

173. Boy Scout Leadership. (2:2:0) F. (m)
Acquisition of techniques and skills designed to produce youth leadership and fellowship. Lecture, demonstration, and laboratory participation.

174. Explorer Leadership. (2:2:0) S. (m)
An examination of programming for the teenager. Lecture, demonstration, and laboratory participation.

278. Principles of Camping. (1:1:2) S.
For women only. Teaching techniques of camping skills required of Y.W.M.I.A. sports camp directors. Elementary outdoor cooking, sanitation, safety, and camp making.

301. National Camp School. (1:lecture and lab. in an organized camp situation for one full week) F.
Theory and application of principles of camp administration, camp aquatics, and camp program. Taught by National Council (Boy Scouts of America) at a selected local council camp. Recommended for youth leadership majors only.

302. Summer Camp Administration. (2-4:0:4-8 weeks) F.
Provides an actual administrative experience as a staff member of a local council summer camp. The course may be extended to additional summer employment for some students. Selection of campus arranged for by the department. Required of youth leadership majors only.

305, 306. Council Operating Committee Functions and Scouting Finance (3:3:0 ea.) F.S. (m) Packer
Objectives and programs of local councils; the function and purpose of operating committees within the council and how they combine the national and local program features to serve institution, leader, and boy. Local council finance is emphasized.

332. Scouting Sponsors and Community Relationships. (3:3:0) F. (m) Packer
Examines the institutional acceptance of scouting as a major youth program in America and defines the relationships of the major religious and civic sponsors of scouting to the Boy Scouts of America.

342. American Youth Organization Development. (2:2:0) S. (m) Packer
A comparative analysis of the major youth organizations of America; their aims, objectives, and contributions to the American society.

☐**Undergrad. Relig. 365. Applying Gospel Principles in Scouting.** (2:2:0)

375. Executive Work Scheduling and Program Planning. (2:2:0) S. Packer
Methods and practices of executive work scheduling for youth agency administrators. Public and group leadership demands are examined, and personal programs are developed to meet these demands.

378. Techniques of Outdoor Adventure. (2:2:3) F.S.
Advanced outdoor skills and camp program planning for youth leaders. Campcrafter certification for the N.A.C. is emphasized.

410. National and Local Council History and Development. (2:2:0) S. Packer
Traces the evolution of the program of scouting in America and defines the organization, functions, and services of the national council to the local council.

412. **Professional Preview Experience.** (3:0:10) F. (m)
Designed to develop readiness for full comprehension and administration of the operation of a district committee. A laboratory fee of $35 is charged payable upon application by the preview student. Students are expected to refrain from registering for evening classes during the semester. Opportunities for training will be correlated with actual participation with district scout executives as they fulfill assignments in local councils of the area.

490. **Field Activities.** (1:1:1) F. (m) Packer
A study and laboratory experience in traditional council events designed to win public acclaim, enrich program experience, and develop financial support for the local council.

491. **Conference Planning Techniques.** (1:1:0) S. (m) Packer
Theory and practice of planning conferences and various techniques of preconference involvement.

492. **Seminar in Research Problems and Program Trends.** (1:1:0) F. Packer

Purpose of youth leadership: work with young boys such as these

Zoology and Entomology

Professors:	Allen (chairman, 280 B), Beck, Hayward, Nicholes, V. Tanner, W. Tanner.
Associate Professors:	Allred, Chapman, Frost, Murphy, Wood.
Assistant Professors:	Braithwaite, Egbert, Jaussi, Jorgensen, Simmons.
Instructor:	Kingsolver.

The Department of Zoology and Entomology offers courses designed to

1. Provide basic coursework and training for students who major and plan to obtain a bachelor's, master's, or doctor's degree in zoology and entomology.
2. Contribute toward the training of prospective teachers in the biological sciences.
3. Furnish courses required in preprofessional preparation in the medical sciences and allied fields.
4. Offer service courses for the benefit of students majoring in other departments who need supporting work in the zoological sciences.
5. Provide biological science courses to meet general education requirements for the B.A. or B.S. degree.

Requirements for a Major

A student seeking a bachelor's degree who elects to major in the Department of Zoology and Entomology will be assigned an adviser who will assist him in the organization of his entire program. The course of study must include (1) the general education requirements of the University, (2) the general departmental requirements, and (3) one of the optional sequences in zoology and entomology.

General Departmental Requirements

All students majoring in zoology and entomology must complete Zool. 212, 213, 376, 385, and 465.

Optional Sequences

Natural History: This option is intended for students interested in the systematics, ecology, and geographical distribution of animals. Such training is preparatory for careers in university teaching, research, fish and game management, museum services, biological surveys, and freshwater or marine biology as they apply to various state, federal, or private agencies concerned with the study and management of natural resources. Courses required for this option are Zool. 230, 343 or 345, 346 or 347, 363, 417, 451, and additional courses in zoology approved by the adviser. Supporting courses in botany, bacteriology, the physical sciences and mathematics must also be included.

Anatomy and Experimental Zoology: This option is designed for students who plan to continue their training in graduate work in such fields as cell biology, anatomy, histology, physiology, genetics, radiation biology, and embryology. It is also the option under which preprofessional preparation is obtained for careers in medicine, dentistry, and allied fields. Training under this option may lead toward university teaching, research, and the study of dentistry and medicine, as well as other aspects of the medical sciences. The following courses are required: Zool. 363, 370, 373, 567, plus an elective of 3 hours at the upper division level approved by the adviser. The following courses, with all prerequisites as listed in the catalog, are also required: Math. 106 or 111; Bact. 331; Bot. 105; Chem. 355; and Physics 202 or 214. Students interested in graduate work in cell biology, genetics, or molecular biology should take Zool. 378, Chem. 465, Math. 213, Physics 214, and one year of German.

Basic Medical Sciences: This option is designed for students who desire to complete only three years of college before entering a professional school yet plan to receive a baccalaureate degree from B.Y.U. by transfer of credit from a professional school. The general departmental requirements for students in this option may be modified to the extent that Zool. 465 may be deleted. In addition to the general education requirements of the University, the following are required: Math. 106 or 111, Physics 202 or 214, and Chem. 355, with all prerequisites as listed in the catalog. Satisfactory completion of the first year of an accredited dental or medical school is also required. A minimum of 96 semester hours must be earned before entering the professional school, and 20 hours of the credit earned at B.Y.U. must be upper division.

Entomology. This option is designed for students planning to work in insect taxonomy, morphology, natural history, and medical, agricultural, or other aspects of applied entomology. Career opportunities are available in teaching, research, industrial and governmental organizations, museums, quarantine inspection, insect control, and other special services. Required courses for this option are Zool. 230, 330, 332, 334 or 433, and six additional hours in zoology. The following supporting courses with all prerequisites as listed in the catalog are required: Math. 106 or 111; Chem. 106 and 355 or 384; Bot. 105, 110.

Secondary Education: Prospective biology teachers may major in zoology and minor in botany or chemistry, or else major in botany and minor in zoology. Required courses for this major in addition to the general departmental requirements in zoology are Zool. 230, 363, 372, and 451. In addition, those with an interest in natural history must also complete Zool. 343, 345, 346, and 347; those with an interest in experimental zoology must complete Zool. 370 and 373. The following supporting courses with all prerequisites as listed in the catalog are also required: Chem. 105, 106; Math. 105. It is strongly recommended that the following courses be taken: Bact. 321, 322; Geol. 103.

Requirements for a Minor

General Departmental Minor: Zool. 212, 213, plus eight additional hours. This minor **will not** satisfy the requirements for a teaching minor in secondary education.

Secondary Teaching Minor in Zoology. Zool. 212, 230, 261, 262 or 263, 343 or 345, 346 or 347, 372. This minor is to be used only by those students with a teaching major in botany.

Secondary Teaching Minor in Biology. Bot. 101, 105, 276 (or Zool. 276); Zool. 212, 213, and two courses selected from Bact. 121; Bot. 110, 440; Zool. 261, 262 or 263, 230. This minor **will not** satisfy the requirements for a teaching minor when zoology or botany is selected as a secondary teaching major.

Secondary Teaching Minor in Chemistry. Zoology majors with a minor in chemistry are required to take Bot. 105, 205; Math. 105. They are also urged to take Bact. 321, 322; Bot. 460; Geol. 103; Math. 106.

Directed Teaching for Junior College Credential Candidates

Candidates for the junior college teaching credential who need an experience in directed teaching to fulfill the requirements of Graduate Education 644 must meet the following minimum specifications to qualify for teaching in the Department of Zoology and Entomology:

a. Bachelor's degree in zoology.
b. At least one semester's experience in secondary student teaching, or as a teaching or laboratory assistant in the Department of Zoology and Entomology.
c. Approval of the staff of the Department of Zoology and Entomology.

Interested students should contact the junior college coordinator in the Department of Zoology and Entomology as early in their careers as possible. Application to teach should be submitted to the department no later than the first week of the semester preceding the one in which the candidate wishes to teach. The department will determine which course the student will teach.

Graduate Degrees

The Department of Zoology and Entomology offers work leading toward the Master of Science and Doctor of Philosophy degrees in zoology or in entomology. A student may pursue research work in specific areas of zoology or entomology in such fields as anatomy, ecology, embryology, genetics, histology, morphology, natural history, parasitology, physiology, radiation biology, and taxonomy. Either one or two minors may be selected, and it is recommended that at least one minor be chosen from a department other than zoology and entomology. For further information consult the Graduate School Catalog.

Courses

105. Animal Biology. (3:3:2) F.S.Su. (G-BS m)
A principles course in animal biology which is basic to other courses in zoology and entomology. A student who has taken a rigorous, one-year course of high school biology may by-pass this course as a prerequisite to many subsequent courses in this department.

212. Invertebrate Zoology. (4:1:6) F.S. (G-BS m) Prerequisite: see Zool. 105.
Braithwaite
A basic course in the functional morphology, taxonomy, ecology and interrelationships of the invertebrates.

213. Vertebrate Zoology. (4:2:4) F.S.Su. (G-BS m) Prerequisite: see Zool. 105.
Hayward
A basic course in the structure, classification, and natural history of the vertebrates.

230. Introductory Entomology. (4:2:4) F.S. (m) Prerequisite: see Zool. 105.
Jorgensen
Structure, classification, and life histories of the classes of arthropods.

235. Insect Life. (3:2:2) S. Prerequisite: one year of high school biology or Zool. 105 or Bot. 101.
A course in the fundamentals of insect biology for nonscience majors.

261. Elementary Human Physiology. (3:3:0) F.S.Su. (G-BS m) Prerequisites: see Zool. 105; concurrent registration in Zool. 262 or 263. Jaussi
A basic course in tissue and organ structure and function.

262A. Anatomy and Physiology Laboratory. (2:0:4) F.S.Su. (G-BS m) Prerequisite: completion of or concurrent registration in Zool. 261.
Designed primarily for physical education and nursing students. Primary emphasis on human anatomy with physiology demonstrations.

262B. Anatomy and Physiology Laboratory. (1:0:2) (G-BS m) Prerequisite: completion of or concurrent registration in Zool. 261.
Basic structures in microscopic and gross anatomy for nursing students. Taught only at Salt Lake Center for Continuing Education.

263. **Elementary Physiology Laboratory.** (1:0:2) F.S.Su. (G-BS m) Prerequisite: completion of or concurrent registration in Zool. 261.
Designed primarily for students in medical technology, food and nutrition, etc., Basic experiments in physiology.

276. **Heredity.** (3:3:0) F.S.Su. (G-BS m) Prerequisite: see Zool. 105. Allen, Egbert
Principles of inheritance for nonscience majors.

315. **Natural History.** (3:2:2) S. (G-BS) Prerequisite: see Zool. 105. Frost
For nonbiology majors, especially elementary education majors.

330. **Insect Morphology.** (5:2:6) F. Prerequisite: Zool. 230. Wood
An introduction to the principles of insect morphology. Both external and internal anatomy are studied.

332. **Insect Classification.** (4:1:6) S. Prerequisite: Zool. 230. Wood
The basic principles of animal taxonomy with special emphasis on insects. Students are advised to consult the instructor and begin collecting insects prior to registration.

334. **Economic Entomology.** (3:2:2) S. (m) Prerequisite: see Zool. 105. (Offered 1966-67 and alternate years) Jorgensen
Life histories and control of insect pests, exclusive of medically important species.

343. **Ichthyology.** (2:0:4) F. (m) Prerequisite: see Zool. 105. Recommended: Zool. 213. V. Tanner
The anatomy, classification, and distribution of the fishes of the Great Basin.

345. **Herpetology.** (2:0:4) S. (m) Prerequisite: see Zool. 105. Recommended: Zool. 213. W. Tanner
The classification, distribution, and natural history of reptiles and amphibians.

346. **Ornithology.** (2:0:4) S. (m) Prerequisite: see Zool. 105. Recommended: Zool. 213. Hayward
The classification, field and laboratory identification, and natural history of birds.

347. **Mammalogy.** (2:0:4) F. (m) Prerequisite: see Zool. 105. Recommended: Zool. 213. Hayward
The classification, field and laboratory identification, and natural history of mammals.

357. **Wildlife Conservation.** (2:2:0) F. Frost
Conservation of natural resources particularly as they relate to animals.

363. **Comparative Vertebrate Anatomy.** (4:2:4) F.S. Prerequisite: see Zool. 105. Recommended: Zool. 213. W. Tanner
A comparison of the body systems of the major vertebrate groups from the fishes through the mammals.

370. **Vertebrate Histology.** (3:1:4) S. Prerequisite: Zool. 213 or 363. Chapman
Microscopic studies of the tissues and organs of vertebrates.

371. **Histological Technique.** (2:0:4) F. Prerequisite: see Zool. 105. Chapman
Preparation of microscopic slides of tissues.

372. **Biological Techniques.** (1:0:3) F. (m) Frost
Designed to help prospective teachers and biologists in the techniques of preparing biological specimens and materials for demonstration or study.

373. **Vertebrate Embryology.** (4:2:6) F. Prerequisite: Zool. 213. Allen
Development of the body systems of vertebrates with special emphasis on the frog, chick, and pig.

374. **Pathology of Organs of Vision.** (2:2:0) F.Su. Prerequisite: Zool. 261. Chapman
Study of the structure, function, pathology, and hygiene of the eye.

376. **Genetics.** (4:3:1) S. (G-BS m) Prerequisites: see Zool. 105; Math. 105, 8 hrs. college chemistry. Egbert
An introductory course designed for science majors.

378. **Genetics Laboratory.** (1:0:3) S. (G-BS m) Prerequisite: completion of or concurrent registration in Zool. 376. Egbert
A laboratory course to accompany Zool. 376.

385. **History of Biology.** (2:2:0) S. Home Study also. V. Tanner
The development of biological thought from the Grecian period to the present.

417. **Parasitology.** (3:2:4) F. Prerequisite: see Zool. 105. Allred
Study of animals that are parasites of man and domestic animals.

433. **Medical Entomology.** (2:1:4) S. (Offered 1965-66 and alternate years) Prerequisite: Zool. 230. Allred
Arthropods that attack man and domestic animals and transmit pathogenic organisms.

451. **Animal Ecology.** (3:2:3) S. Prerequisites: Zool. 212, 213, 230; Bot. 105 or 110. Murphy
The principles of ecology as applied particularly to animals in natural communities. Saturday field trips.

465. **Animal Physiology.** (4:4:3) F.S. Prerequisites: Zool. 213 or 363 and 10 hours of chemistry. Jaussi
The functions of the body systems of animals.

510. **Zoological Literature.** (2:1:2) F. Wood
An introduction to the literature of zoology designed to prepare the student for research and thesis writing.

531. **Insect Physiology.** (2:1:2) S. (Offered 1967-68 and alternate years) Wood

533. **Field Entomology.** (2:0:4) Su. Prerequisite: Zool. 332. Wood

538. **Immature Insects.** (2:0:4) S.

540. **Aquatic Ecology.** (3:2:3) F. Prerequisite: Zool. 451 or Bot. 450. Murphy

555. **Principles of Zoogeography.** (2:2:0) F. (Offered 1967-68 and alternate years) W. Tanner

561. **Advanced Vertebrate Anatomy.** (3:1:4) F. (Offered 1966-67 and alternate years) Prerequisite: Zool. 363. W. Tanner

562. **Advanced Vertebrate Anatomy.** (3:1:4) S. Prerequisite: Zool. 363. Chapman

563. **Etiology and Educational Implications of Brain Injury.** (3:2:2) S.Su. Prerequisite: consent of instructor. Chapman

564. **Neurology.** (2:1:2) S. Prerequisite: consent of instructor. Chapman

565. **Endocrinology.** (3:3:0) S. (Offered 1967-68 and alternate years) Prerequisite: Zool. 465 or equivalent. Jaussi

567. **Cell Physiology.** (3:3:0) S. Prerequisites: see Zool. 105; organic chemistry. Egbert
A study of the physiology of the cell with emphasis on a molecular and biochemical approach.

573. **Experimental Embryology.** (2:1:3) S. (Offered 1967-68 and alternate years) Prerequisite: Zool. 373. Allen

578. **Radiation Biology.** (2:2:0) F. (Offered 1967-68 and alternate years) Prerequisites: Chem. 106 or 112; Physics 202; Zool. 465. Recommended: Physics 303. Allen

579. **Radiation Biology Laboratory.** (2:0:6) F. (Offered 1967-68 and alternate years) Prerequisite: concurrent registration in Zool. 578. Allen

591. **Special Problems in Zoology.** (1-2:Arr.:Arr.) F.Su.

592. **Special Problems in Zoology.** (1-2:Arr.:Arr.) S.Su.

594A,B. **Seminar in Genetics.** (2:2:0 ea.) F. (Offered 1966-67 and alternate years) Prerequisite: Zool. 376 or Bot. 376. Allen

595. **Seminar in Molecular Biology and Biophysics.** (1:1:0) S. Prerequisite: consent of instructor. Egbert

Current topics in molecular biology and biophysics required of graduate students and recommended for seniors who plan to do graduate work in these areas.

610. **Systematic Zoology.** (2:1:2) S. Wood

612. **Advanced Invertebrate Zoology I.** (3:2:3) F. (Offered 1966-67 and alternate years) Prerequisite: Zool. 212 or consent of instructor. Braithwaite

The comprehensive biology of the Protozoa, Parazoa, Radiata, Acoelomata, and Pseudocoelomata.

613. **Advanced Invertebrate Zoology II.** (3:2:3) S. (Offered 1966-67 and alternate years) Prerequisite: Zool. 612 or consent of instructor. Braithwaite

The comprehensive biology of the Eucoelomata including the Protostomia, Deuterostomia, and Problematica. The course excludes the study of terrestrial arthropods.

615. **Field Zoology.** (4:0:5 week-long field trips) Su.

Extended field trips each week. Depart Monday and return Friday. Outdoor camping. Field studies of animals. A different locale each week.

621. **Arthropodology.** (2:1:3) F. (Offered 1967-68 and alternate years) Prerequisites: Zool. 212, 230. Allred

624. **Acarology.** (2:0:6) F. (Offered 1966-67 and alternate years) Allred

625. **Advanced Topics in Medical Entomology.** (2:0:4) S. Prerequisites: Zool. 332, 433. Allred, Beck

628. **Ecology of Animal Parasites.** (2:2:0) S. (Offered 1966-67 and alternate years) Prerequisites: Zool. 417, 433, 451. Allred

635. **Biological Control of Insects.** (2:2:0) F. (Offered 1966-67 and alternate years) Prerequisites: Zool. 230, 451. Recommended: Zool. 334. Jorgensen

643. **Advanced Ichthyology.** (2:1:2) S. (Offered 1967-68 and alternate years) Prerequisite: Zool. 343. V. Tanner

645. **Advanced Herpetology.** (2:1:2) S. Prerequisite: Zool. 345. W. Tanner

650. **Animal Communities.** (2:2:0) S.Su. Prerequisite: Zool. 451 or Bot. 450. Hayward, Murphy

662. **Advanced Physiology.** (2:1:2) F. Prerequisite: Zool. 465 or consent of instructor. Jaussi

663. Advanced Physiology. (2:1:3) S. Prerequisite: Zool. 465 or consent of instructor. Jaussi

670. Advanced Histology. (2:0:4) F. Prerequisite: Zool. 370. Chapman

680. Theoretical Zoology. (2:2:0) F. (Offered 1966-67 and alternate years) Prerequisite: consent of instructor. W. Tanner

690A,B. Advanced Topics in Animal Ecology. (2:2:0 ea.) F. Prerequisite: Zool. 451. Murphy

A seminar-discussion type course dealing with specific areas within the general framework of ecology, both terrestrial and aquatic.

691A,B,C,D. Research. (1-4:Arr.:Arr. ea.) F.S.Su.

694A,B. Advanced Topics in Ornithology and Mammalogy. (2:2:0 ea.) F. (Offered 1967-68 and alternate years) Prerequisites: Zool. 346, 347. Frost, Hayward

695A,B. Seminar in Embryology. (2:2:0 ea.) S. (Offered 1966-67 and alternate years) Allen

696, 697. Graduate Seminar. (1:1:0 ea.) F.S.

699. Thesis for Master's Degree. (6-9: Arr.:Arr.) F.S.Su.

797A,B,C,D. Research. (2-4:Arr.:Arr. ea.) F.S.Su.

799. Dissertation for Ph.D. Degree. (Arr.) F.S.Su.

Class inspecting display of zoological specimens

Division of Continuing Education

Representative in the Administrative Council: Earl C. Crockett, vice-president.

Office of the Dean: Harold Glen Clark, dean.
  Department of Extension Publications: William F. Rawcliffe, supervisor.

Office of Community Education: R. Wayne Shute, coordinator.
  Department of Education Week Programs: D. Chris Poulos, chairman; Kenneth B. Grant, supervisor.
  Department of Off-Campus Lectures and Courses: W. Grant Lee, chairman; Brent B. Dixon, supervisor; Milton Sharp, supervisor.
  Department of Travel Study: Robert C. Taylor, chairman.

Office of Campus Programs: Phileon B. Robinson, Jr., coordinator.
  Department of Evening Classes: Ilene Webb, chairman.
  Department of Home Study: Karl E. Starr, chairman.
  Department of Special Courses and Conferences: Thomas A. James, chairman.

Office of Centers for Continuing Education: Richard H. Henstrom, coordinator.
  B.Y.U.-California Center for Continuing Education: V. Dallas Merrell, chairman.
  B.Y.U.-Ogden Center for Continuing Education: George S. Haslam, chairman.
  B.Y.U.-Ricks Center for Continuing Education: J. Kenneth Thatcher, chairman.
  B.Y.U.-Salt Lake Center for Continuing Education: Keith L. Smith, chairman.

GENERAL INFORMATION

The purpose of the Division of Continuing Education since its establishment in 1921 has been to provide educational programs and services of the regular University day school to adults who do not have opportunities for daytime study. The division services range from off-campus programs, lectures, correspondence study, and community services—both through the off-campus centers and extended programs in wide geographic areas—to formal on-campus classroom offerings, both credit and noncredit, extended and short-term in nature.

Many teachers of the courses scheduled through the Division of Continuing Education are selected from the regular B.Y.U. faculty. In addition a special part-time, off-campus faculty is available and is listed in the special instructors and lecturers section of this catalog.

WHO MAY ENROLL IN CONTINUING EDUCATION CLASSES

Anyone having the proper background may register for noncredit courses. The purpose of continuing education is to serve the needs of adult students.

Those who have not graduated from high school should not register for University credit courses without prior approval; however, all persons over nineteen years of age are eligible to register for such courses.

Undergraduate students may not register for graduate classes.

Acceptance as a student in a continuing education course does not mean that the individual concerned has been accepted by Brigham Young University or any other university on a degree-seeking basis. It is the responsibility of each student to gain admission to the university of his choice as a degree-seeking student through the normal procedures listed in the university catalog. At B.Y.U. this may be accomplished by contacting the Office of Admissions and Records. All credit received prior to the student's formal admission will then be evaluated.

The Division of Continuing Education at B.Y.U. takes no responsibility for the acceptance of a student's credit courses toward a degree or for accreditation purposes of any nature at any university. Clearing these courses for accreditation of any kind is the responsibility of the student. Such clearance should be made before the student enrolls in the course.

No student who has been suspended from a university or refused admission to B.Y.U. or any other university will be allowed to register for credit courses. However, a suspended student may be accepted as a Home Study student.

DEPARTMENT OF EXTENSION PUBLICATIONS

The Department of Extension Publications produces in multilith or printed form numerous lectures, pamphlets, and other material for distribution to students, faculty and staff, alumni, and other patrons of the University. These materials are sold at cost. The goal of this service is adult education through the printed page. The following categories indicate the kinds of publications available:

Speeches. Devotional talks given by General Authorities and other Church leaders and forum addresses given at the unique B.Y.U. weekly assemblies by notable guests of the University, usually men and women of national or worldwide fame, are reproduced in multilith form. Subscriptions to these series with attractive post-type binder in which to file the speeches, as well as individual speeches, are available at Room 222 Herald R. Clark Building on campus.

Lectures and Lecture Series. Numerous publications are available which are based on the great variety of subjects discussed in the Education Weeks programs held on campus and in other areas. Missionaries, teachers in Church auxiliaries, speakers, and students of the scriptures find these publications stimulating because of the timely stories, interpretations of current events, faith-promoting experiences, and supplementary instructional material which they contain.

Seminars and Symposiums. During each school year many lectures are given which would be of interest outside the classrooms or limited meetings in which they originate. A number of these series are available in multilith form. Examples are the "Book of Mormon Institute," "Pearl of Great Price Conference," "Fifteenth Annual Symposium on the Archaeology of the Scriptures," "Seminar on the Prophet Joseph Smith, 1961, 1962, 1963."

Pamphlets. Pamphlets are available in the following series: (Only a brief example of each series is indicated.)

Religious Life Series: "The Principles of the Welfare Plan," by Elder Henry D. Taylor, and "How to Be Happy," by Elder Marion D. Hanks.

Apostle Speaks to Youth Series: "Love Versus Lust," by Elder Spencer W. Kimball, and "Building Your Marriage to Last Forever," by Elder LeGrand Richards.

General-Interest Pamphlets: "The Principle and Practice of Paying Tithing," by President Ernest L. Wilkinson, and "Understanding 'Talmage'—a Contextual Dictionary to Supplement the Study of 'Jesus the Christ' and 'Articles of Faith' by Elder James E. Talmage," edited by J. Leonard Love.

B.Y.U. Campus Firesides. A selected number of addresses given at the combined B.Y.U. stakes' firesides are reproduced. Examples are "The Early Christian Church in Light of Some Newly Discovered Papyri from Egypt," by Hugh Nibley, and "Every Man in His Place . . ." by Elder Paul F. Royall.

Pamphlets from Other Publishers. Many pamphlets pertaining to human development and family life have been obtained from other sources and are made available through this department. Titles included are in the general subject areas of expectant parents, infancy, preschool children, nursery school, the grade-school years, adolescence, courtship and marriage, family life, sex education, mental health, and basic viewpoints in child guidance.

Books. Now available are "Our Leaders Speak," a compilation of eternal truths spoken at Brigham Young University by a number of the General Authorities in devotional addresses, and "Successful Leadership," a compilation of outstanding talks given in the University's Executive Lecture Series, wherein nationally recognized business leaders define their experienced paths to success and make recommendations for successful futures in the lives of others. Two books in full color, "Prayer" and "Tithing," of the series, "Little Deseret Stories," are now available. Other books are in the planning stage.

For a free catalog listing available publications and their prices, write to Extension Publications, 124 Herald R. Clark Building, Brigham Young University, Provo, Utah 84601.

OFFICE OF COMMUNITY EDUCATION

Department of Education Week Programs

Education Week, formerly called Leadership Week, has been held annually on the B.Y.U. campus since 1922 and has gained nation-wide attention. For the past several years the program has been gradually moving into more and more locations throughout the western half of the United States. In 1965 the program was presented in 44 locations, extending to Calgary on the north; Colonia Juarez, Mexico, on the south; east as far as Denver, Colorado; and west along the Pacific coast. It is anticipated that the 1966 programs will be held in 50 locations, with the addition of a Texas-Oklahoma circuit. It is projected that there will be eventual expansion to include the Midwest and Eastern United States. Education Week is a three-day program involving six to ten faculty members, each presenting three hours of lecture on each of three days.

Campus Education Week. For 42 years adults from all walks of life have spent their vacations or other spare time attending the four-day festival of learning at Brigham Young University. All of the colleges of the University, through their faculties and off-campus consultants, provide selected educational experiences which help members of the Church and other patrons of the University to become better leaders in the professions, the home, the community, and the Church. Education Week is leadership training **for everyone,** since all in the home are leaders or potential leaders. A few of the areas of instruction are these: human relations; scientific advancements; the world of business; better teaching methods; literature, music, drama and speech activities; teen-age problems; and handicraft arts, instruction in genealogy, the scriptures, and religious lectures from the General Authorities and others also add greatly to the interest and value of Education Week. Devotional assemblies, evening entertainments, tours, lectures, demonstrations, and workshops enhance the offering of this week. A special youth program is included for those 14-17 years of age.

Department of Off-Campus Lectures and Courses

The Department of Off-Campus Lectures and Courses provides services to the off-campus areas not already served by a B.Y.U. Center of Continuing Education.

Programs have been held in over 40 cities in the eastern United States and approximately 30 cities in the western United States. Also, programs have been held in Alaska, Canada, Mexico, Tonga, and New Zealand.

Descriptions of the various programs offered are listed on following pages. More detailed information can be obtained by writing the Department of Off-Campus Lectures and Courses, Division of Continuing Education, Brigham Young University, Provo, Utah 84601.

Credit Courses. A request for a credit course is filled by the scheduling of a University teacher or an approved off-campus teacher, who travels to an off-campus location to conduct the course. Credit courses provide regular B.Y.U.

credit and may be used to renew a teaching certificate, to apply toward a degree, or to broaden one's intellectual or spiritual horizons. (Ordinarily a two-semester hour class will meet one evening each week for eleven weeks. A wide choice of courses is available; in fact, courses listed in the B.Y.U. catalog, subject to the approval of the B.Y.U. administration, may be scheduled off campus.)

Educational Television. B.Y.U. now has its own television station, which will be broadcasting from early in the morning until late in the evening. Courses will be offered both on a credit and a noncredit basis. Seminars, special conferences, and various publications will be used in conjunction with these programs. The range of the new television station will reach throughout most of the state of Utah and in the not-too-distant future should reach in several of the surrounding states.

Education Day Programs. Education Day programs are Saturday programs patterned after Education Week. They are held in Utah communities and in Church population areas which are close enough that the faculty can fly in on a weekend for a day of classes. These programs have a wide variety of subject material similar to the Education Week programs.

Lecture Circuits. An innovation in University offerings is "lecture circuits." Generally, two faculty members lecture for one night in Church populated centers, traveling a particular circuit. The eastern United States was first covered by such lectures in 1963, with 20 cities participating; in 1965 this had increased to 36 cities participating. The expansion of this program has been very rapid.

DEPARTMENT OF TRAVEL STUDY

B.Y.U. travel study programs are designed for students who wish to increase their knowledge and understanding of their own nation and of other lands and peoples through purposeful educational travel under the direction of the University. Those who participate must be properly enrolled. Adults off campus as well as individuals on campus may qualify as students in this program. Participants must adhere to standards of The Church of Jesus Christ of Latter-day Saints.

All of the Brigham Young University travel study programs are noncommercial, nonprofit, educational projects. They are sponsored by a University which recognizes the value of organized educational travel experience and senses the importance of broadening cultural horizons and promoting international understanding and good will.

College credit is provided to all program participants who complete the study course as outlined by the academic department which co-sponsors the travel study program.

OFFICE OF CAMPUS PROGRAMS

Department of Evening Classes

On weekday evenings, classes are conducted on campus in subjects of interest to adults who desire to improve or enrich their lives through part-time education.

Regular college credit equivalent to daytime classes is given for all evening classes. Anyone wishing to do so may take a class on a noncredit basis as an auditor.

Veterans are eligible to enroll under the G.I. Bill if they meet the eligibility requirements of the Veterans' Administration.

A class schedule of all classes is published each semester. These class schedules, giving detailed information about all procedures, are available free of charge upon request. Courses listed in the Evening Classes schedule which do not receive ten or more registrations will be cancelled. Students who have registered in cancelled classes will be notified and invited to join other classes or will be given a full refund.

At scheduled times during each registration period, trained counselors are available who will aid students in making educational and vocational plans or in working through related personal problems. There is no charge or obligation to the student for these services.

Day students may enroll in evening classes on their regular registration card by picking up class cards marked "Section 90." An extra fee of $3.00 per credit hour is charged the day school student for these classes.

One dollar is charged for each change slip presented after the first week of the semester unless the action is caused by the cancellation of an evening class.

Each student registered through the Department of Evening Classes who discontinues attendance at class must use the proper procedure to withdraw by coming to 225 Herald R. Clark Building.

A prorated refund of tuition fees will be made to those who withdraw properly from evening classes during the first five weeks of the semester. There is no refund for withdrawals occurring after the fifth week of the semester.

Students registering for evening classes only should register from 5:00 to 9:00 p.m. on the dates announced in current schedules.

Department of Home Study

The Division of Continuing Education offers home study courses to aid in widening the educational horizons of the many people who cannot take college work in residence.

What Is It? Home study is education by mail—instruction with a personal touch.

Why Home Study? Home study is for those who cannot take courses in residence. This department provides courses required for entrance requirements, courses needed to complete high school or for teacher certification, courses for those serving their country in the armed forces or for Korean veterans who wish to maintain their entitlement, for people working in industry who wish to acquire broader culture or to improve their skills, for professional people with a desire for continued intellectual and professional progress, and for those desirous of pursuing some course for personal development and interest.

Catalog. A Home Study Catalog is available without charge to anyone who wishes detailed information on all courses, fees, and registration.

USAFI and Korean Veterans. Brigham Young University has been approved to offer home study courses to the men and women in the armed forces and to Korean veterans.

Credit. The number of credit hours of home study course work that will apply toward graduation requirements is limited to 24 semester hours.

Examinations. Examinations are required in all correspondence courses unless otherwise stipulated.

Department of Special Courses and Conferences

The Department of Special Courses and Conferences, organized to meet the academic needs and desires of many different age and educational background groups, provides flexible, varied credit and noncredit programs on the Brigham Young University campus. It offers courses either for specific interest groups or for the public at large.

Offerings, presented on a high academic level, are informative in nature yet informal and flexible as to content and presentation. Courses are generally six to ten weeks in length.

The instructional staff of this department is composed of members of the regular B.Y.U. faculty and other professional and academic specialists. Tuition fees vary according to the length of the course or the special expenses which may be involved. Persons representing groups which desire special courses or lectures on the B.Y.U. campus may have such courses initiated by contacting this department, located at 242 Herald R. Clark Building.

The Department of Special Courses and Conferences presents programs in the following categories:

Conferences. Programs which are conducted for professional groups in concentrated intensive sessions, usually over a period of one day to one week. These groups often hold business meetings in addition to considering academic materials.

Workshops and Clinics. Programs which involve a high degree of participation and activity by registrants and which include learning of professional and avocational skills.

Special Courses. Credit or noncredit courses which do not fall into the administrative areas of regular classes or of Evening Classes.

Lectures. Short discourses on various academic subjects, sometimes presented in a series or singly.

Seminars. Courses for groups of supervised students or professional persons doing research or advanced study.

OFFICE OF CENTERS FOR CONTINUING EDUCATION

Sensing the obligation of the Church University to provide educational opportunities in harmony with L.D.S. standards for persons away from Provo, the Board of Trustees has established continuing education centers. These centers offer the same services of continuing education to the people of the center's area, including Education Week, as those offered to people who live near Brigham Young University. Any student expecting to earn a degree from B.Y.U. may do much of his work at a continuing education center, but at least 20 semester credit hours must be earned on the campus in Provo. (See section entitled "Graduation Requirements" under Student Academic Services in this catalog for residence requirements.)

B.Y.U.-Ricks Center for Continuing Education

The first center was established at Rexburg, Idaho, in July 1956. In January 1959 the center headquarters was moved from Ricks College to 160 North Holmes Avenue, Idaho Falls, Idaho. An office is maintained at Ricks College in Rexburg. The center provides off-campus courses, evening classes, summer classes, Education Week and special programs. On November 15, 1959, a branch of the Division of Communication Services of Brigham Young University was established at the B.Y.U.-Ricks Center in Rexburg. The influence of this center has been felt as far as Ontario, Oregon, on the west to Afton, Wyoming, on the east and throughout the state of Idaho. For further information call the center in Idaho Falls, area code 208 523-4682.

B.Y.U.-Ogden Center for Continuing Education

The Ogden Center was officially opened August 10, 1957, to provide the people in and near Ogden with some of the advantages enjoyed by those living close to the Brigham Young University campus. The center offers upper division and graduate courses in most of the academic departments of the University. Informal courses, lectures, seminars, workshops, special programs organized for business, industry, and special groups are also a part of the educational offering. Several Education Day and Education Week programs are held each year.

In 1964 the University Department of Graduate Education authorized the center to offer a program of classes leading to the master's degree, with a major in six areas of instruction.

The center draws its faculty from Brigham Young University and professionally qualified persons living in the Ogden area. Local instructors are approved by the University administration in the same manner used in employing regular full-time faculty members. Further information may be obtained from the center at 555-24th Street, Ogden, Utah, or by calling 399-4455.

B.Y.U.-Salt Lake Center for Continuing Education

On January 1, 1959, the building formerly occupied by the McCune School of Music and Art, 200 North Main, was opened as the third B.Y.U. continuing education center. Its program follows the pattern established in other centers. Courses and programs are offered in religion, genealogy, speech, history, recreation, writing, arts, education and other fields. A nursing program and teacher certification program are presently available at the Salt Lake Center. Special programs are organized for industry, commerce, and Church groups when requested. A forum assembly program was added in the fall of 1959 with noted speakers participating. The Salt Lake Center has also been approved to offer selected courses leading toward the master's degree in education. Several Education Week and Education Day programs are offered in the general Salt Lake area. Full information may be obtained by phoning Salt Lake City, 328-0325.

B.Y.U.-California Center for Continuing Education

The newest B.Y.U. continuing education center was established in 1959 with offices in Los Angeles. The central offices are now located at 3141 West Century Boulevard, Suite 9, Inglewood, California.

This center offers primarily noncredit classes, lectures, and seminars which in 1965 enrolled over 20,000 persons. The educational activities are usually held in L.D.S. stake centers, and events are generally co-sponsored by L.D.S. stakes and wards. Sixty-one stakes throughout California and Northern Nevada actively participate in the California Center's activities.

Educational subjects range through religion, family life, behavioral sciences, humanities, arts, genealogy, teaching, and administration. Faculty members are local educators, B.Y.U. instructors, and other approved teachers. The center administrators receive suggestions from an advisory council of stake presidents and other groups in developing programs.

In addition to its educational programs the California Center serves as an information and counseling center for B.Y.U. patrons. For further information, phone area code 213 678-3903.

Administration and Faculty

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*These officers, together with Dean John T. Bernhard, constitute the Administrative Council of the University.

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General College	Lester B. Whetten
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Industrial and Technical Education	Ernest C. Jeppsen
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DEANS AND DIRECTORS OF OTHER ACADEMIC PROGRAMS

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Technical Institute	Ernest C. Jeppsen
Undergraduate Studies in Religious Instruction	Roy W. Doxey
Youth Leadership	Thane J. Packer
Zoology and Entomology	A. Lester Allen

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Assistant Director	C. LaVar Rockwood
Business Manager	Jay Eitner
Building Services Supervisor	F. Curtis Wynder
Comptroller	Joseph T. Bentley
Accountant, University	C. Joseph Rowberry
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Institute of American Studies and Research, Director	Paul E. Felt
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Indian Education, Adviser	Claude B. Duerden
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Maintenance and Operations Section, Assistant to the Director	Harold J. Anderson
Planning Section, Chief	Ephraim Hatch
Security Officer	Swen C. Nielsen
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Supervisor, Educational Placement	Caro Lee Morgan
Supervisor, Staff Employment	Donald R. Lyman
Supervisor, Technical Placement	R. Wayne Hansen
Student Health Center, Director	Cloyd C. Hofheins
Students, Dean	J. Elliot Cameron
Assistant Dean	Ralph B. Smith
Academic Standards, Chairman	Darrell L. Moses
Counseling Service, Chairman	Vern H. Jensen
Counselor for Women	Klea Worsley
Foreign Students, Adviser	Ariel S. Ballif
Special Student Problems, Adviser	Alma W. King
Student Organizations, Coordinator	C. LaVar Rockwood
University Standards, Chairman	Kenneth A. Lauritzen
University Relations, Director	Stephen R. Covey
Booking University Attractions, Chairman	James H. Lawrence
Conferences and Conventions, Chairman	Collin Allan
Devotional Assemblies, Coordinator	Stephen R. Covey
Press Relations, Chairman	Edwin J. Butterworth
Program Coordinator	Jane Thompson
University and Professional Relations, Chairman	Stephen R. Covey
University Mail Service Center, Chairman	Gary R. Bascom
University Program Bureau, Chairman	James H. Lawrence
University Publications, Chairman	Ernest L. Olson
University Speakers Bureau, Chairman	J. LaVar Bateman

Councils

UNIVERSITY ADMINISTRATIVE COUNCIL

On matters of overall policy the following meet as an administrative council for the purpose of advising the President and resolving mutual problems: Ernest L. Wilkinson, President; Stephen R. Covey, administrative assistant; Earl C. Crockett, academic vice-president; Clyde D. Sandgren, vice-president and general counsel; Ben E. Lewis, vice-president in charge of auxiliary and communication services; Joseph T. Bentley, comptroller; J. Elliot Cameron, dean of students;

William R. Siddoway, dean of admissions and records; Raymond E. Beckham, director of university development; John T. Bernhard, dean, College of Social Sciences.

DEANS' COUNCIL

The Deans' Council consists of the Administrative Council, all deans and the directors of schools and divisions.

GRADUATE COUNCIL

The Graduate Council is empowered to act for the graduate faculty on all student petitions and on departmental requests for approval of faculty members for temporary assignments to graduate instruction and supervision. The council initiates proposals for policy and procedure regarding the graduate program.

Faculty

Emeriti

Beulah Ream Allen .... Professor Emeritus of Nursing (1961)
Diploma, Illinois Training School for Nurses, Cook County Hospital, Chicago, Illinois, 1922; B.A., University of Utah, 1928; M.D., University of California, 1932.

Owen L. Barnett .... Associate Professor Emeritus of Educational Administration (1950)
B.S., M.S., Brigham Young University, 1923, 1927.

Clarence S. Boyle .... Professor Emeritus of Marketing (1927)
B.S., Brigham Young University, 1924; M.S., Ed.D., New York University, 1926, 1941.

Newbern I. Butt .... Assistant Professor Emeritus of Library and Research (1922)
B.S., Utah State University, 1915; M.A., Brigham Young University, 1939.

Jennie Campbell .... Associate Professor Emeritus of Education (1952)
B.S., Brigham Young University, 1928; M.A., Teachers College, Columbia University, 1937.

Clawson Y. Cannon, Sr. .... Professor Emeritus of Animal Science (1956)
B.S., Utah State University, 1913; M.S., Ph.D., Iowa State College, 1924, 1927.

Elsie C. Carroll .... Associate Professor Emeritus of English (1926)
B.S., M.A., Brigham Young University, 1926, 1928.

Parley A. Christensen .... Professor Emeritus of English (1927)
B.S., Utah State University, 1914; M.A., Ph.D., Stanford University, 1925, 1927.

Benjamin F. Cummings .... Professor Emeritus of Modern and Classical Languages (1920)
B.A., University of Utah, 1913.

Lillian Booth Davis .... Assistant Professor Emeritus of Student Personnel (1938)
B.S., M.S., Brigham Young University, 1940, 1950.

J. Orval Ellsworth .... Professor Emeritus of Religion (1954)
B.S., Utah State University, 1917; M.S., Ph.D., Cornell University, 1924, 1926.

Flora D. Fisher .... Assistant Professor Emeritus of Education (1933)
B.S., M.S., Brigham Young University, 1936, 1949.

Alvah Fitzgerald .... Instructor Emeritus in Religious Education (1956)
B.S., M.S., Brigham Young University, 1928, 1930.

Harvey Fletcher .... Professor Emeritus of Physics; Dean Emeritus of College of Physical and Engineering Sciences (1952)
B.S., Brigham Young University, 1907; Ph.D., Chicago University, 1911; hon. Sc.D., Columbia University, 1935; hon. Sc.D., Kenyon College, 1942; hon. Sc.D., Stevens Institute of Technology, 1942; hon. Sc.D., Case School of Applied Sciences, 1942; hon. Sc.D., University of Utah, 1944; hon. Sc.D., Brigham Young University, 1954.

May C. Hammond .... Assistant Professor Emeritus of Education (1925)
B.S., M.S., Brigham Young University, 1934, 1949.

William F. Hansen .... Assistant Professor Emeritus of Music (1924)
B.S., M.S., Brigham Young University, 1936, 1937.

Bent F. Larsen .... Professor Emeritus of Art
B.A., Brigham Young University, 1921; M.A., University of Utah, 1922.

Florence Jepperson Madsen .... Professor Emeritus of Music (1910)
B.M., M.M., Chicago Musical College, 1926, 1927; Doctor of Music, Boguslawski College of Music, 1932; B.A. Brigham Young University, 1934; M.M., hon. Doctor of Music, Chicago College of Music, 1933.

Franklin Madsen .... Professor Emeritus of Music (1920)
B.A., M.A., Brigham Young University, 1925, 1931; B.M., 1926; M.M., 1927; B.ME., 1928; Mus. Doc., 1929; M.M.E., 1932; hon. Doctor of Music Education, Boguslawski College of Music, 1933; hon. Doctor of Music Education, Chicago College of Music, 1934.

Georgia Maeser .... Assistant Professor Emeritus of Education (1926)
B.S., Brigham Young University, 1928; M.A., Columbia University, 1938.

Sadie O. Morris .... Professor Emeritus of Food and Nutrition (1957)
B.S., M.S., Utah State University, 1921, 1922; Ph.D., Columbia University, 1933.

Kathryn B. Pardoe .... Assistant Professor Emeritus of Speech (1934)
B.A., Brigham Young University, 1934.

T. Earl Pardoe .... Professor Emeritus of Speech (1920)
B.A., Brigham Young University, 1925; M.A., University of Southern California, 1931; Ph.D., Louisiana State University, 1936.

Hugh W. Peterson .... Professor Emeritus of Chemistry (1927)
B.A., M.A., Brigham Young University, 1916, 1928; Ph.D., State University of Iowa, 1936.

M. Wilford Poulson .... Professor Emeritus of Psychology (1920)
B.A., Brigham Young University, 1914; M.A., University of Utah, 1919.

J. Wyley Sessions .... Professor Emeritus of Religious Philosophy (1939)
B.S., Utah State University, 1911; M.A., University of Idaho, 1928.

William H. Snell .... Professor Emeritus of Industrial Education (1915)
B.A., M.S., Brigham Young University, 1918, 1939.

Margaret Summerhays .... Assistant Professor Emeritus of Music (1927)
Graduate, New England Conservatory of Music, 1916; B.A., Brigham Young University, 1936.

Orea B. Tanner .... Associate Professor Emeritus of English (1938)
B.A., Brigham Young University, 1932; M.A., Columbia University, 1953.

Vasco M. Tanner .... Professor Emeritus of Zoology and Entomology (1925)
B.A., Brigham Young University, 1915; M.A., University of Utah, 1920; Ph.D., Stanford University, 1925.

Golden L. Woolf .... Professor Emeritus of Educational Administration (1934)
B.A., M.A., Brigham Young University, 1934, 1936; Ed.D., University of California, 1940.

Members of the Instructional and Administrative Staff

Melvin H. Aamodt .... Assistant Professor of Geography (1965)
B.A., Brigham Young University, 1958; M.A., University of Wisconsin, 1960.

George M. Addy .... Associate Professor of History (1957)
B.A., M.A., Brigham Young University, 1948, 1950; Ph.D., Duke University, 1957.

Lorna Call Alder .... Assistant Professor of Elementary Education (1949)
B.S., Brigham Young University, 1935; M.A., Columbia University, 1940.

Zane G. Alder .... Assistant Professor of English (1955)
B.S., M.S., Utah State University, 1948, 1956.

Thomas Glen Alexander .... Assistant Professor of History (1964)
B.S., M.S., Utah State University, 1960, 1961; Ph.D., University of California (Berkeley), 1965.

A. Lester Allen .... Professor of Zoology (1954)
B.A., Ph.D., University of California at Los Angeles, 1946, 1951.

Dell K. Allen .... Instructor in Industrial Technology (1960)
B.S., Utah State University, 1954.

James B. Allen .... Associate Professor of History (1963)
B.S., Utah State University, 1954; M.A., Brigham Young University, 1956; Ph.D., University of Southern California, 1963.

Mark K. Allen .... Professor of Psychology (1946)
B.A., Brigham Young University, 1926; M.A., Ph.D., Stanford University, 1935, 1955.

Stephen L. Alley .... Professor of Educational Philosophy (1956)
B.S., M.S., University of Utah, 1947, 1951; Ed.D., Harvard University, 1958.

Grace H. Allphin ....Instructor in Library Science (1956)
B.A., University of Utah, 1931; Certificate in Library Science, Brigham Young University, 1956.

Dorald M. Allred .... Associate Professor of Zoology and Entomology (1956)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Utah, 1954.

Mildred E. Allred .... Assistant Professor of Nursing (1954)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1925; C.P.H.N., Oregon, 1941; B.S., Brigham Young University, 1943; M.N., University of Washington, 1960.

R. Chase Allred .... Associate Professor of Agronomy (1955)
B.S. Brigham Young University, 1948.; M.S., Kansas State College, 1949; Ph.D., University of Nebraska, 1952.

R. LaMar Allred .... Special Instructor in Botany (1963)
B.A., Brigham Young University, 1958; M.S., University of Utah, 1965.

Ruel A. Allred .... Assistant Professor of Teacher Education (1961)
B.S., M.S., Brigham Young University, 1954, 1958; Ed.D., University of Oregon, 1965.

H. Verlan Andersen .... Professor of Accounting (1965)
B.S. Brigham Young University, 1940; LL.B., Stanford University, 1946; LL.M., Harvard University, 1948.

Wilson K. Andersen .... Assistant Professor of Religious Instruction (1962)
B.S., University of Utah, 1949; M.Ed., Brigham Young University, 1957.

Alan R. Anderson .... Assistant Professor of Personnel and Guidance (1963)
B.S., B.Ed., University of Alberta, 1952, 1953; M.S., Ph.D., Brigham Young University, 1960, 1965.

C. Dixon Anderson .... Associate Professor of Spanish (1956)
B.A., Brigham Young University, 1953; M.A., Ph.D., University of Texas, 1956, 1965.

D. Chris Anderson .... Assistant Professor of Psychology (1965)
B.S., M.A., Ph.D., University of Portland, 1956, 1961, 1964.

Keith P. Anderson .... Professor of Chemistry (1953)
B.A., Brigham Young University, 1946; Ph.D., Cornell University, 1950.

Marion F. Anderson .... Instructor in Child Development and Family Relationships (1962)
B.S., Brigham Young University, 1959; M.S., Oregon State University, 1961.

Richard L. Anderson .... Professor of History and Scripture (1955)
B.A., M.A., Brigham Young University, 1951, 1957; LL.B. Harvard University, 1954; Ph.D., University of California, 1962.

Stephen J. Anderson .... Special Instructor in Communications (1962)
B.A., Brigham Young University, 1960.

Hyrum L. Andrus .... Professor of Scripture (1956)
B.S., Ricks College, 1951; M.S., Brigham Young University, 1952; D.S.S., Syracuse University, 1955.

J. Roman Andrus .... Professor of Art and Education (1942)
B.S., M.S., Brigham Young University, 1942, 1943; Ed.D., University of Colorado, 1958; Art Students League, L. A. Art Institute.

Chris J. Apostol .... Instructor in Physical Education (1959)
B.A., Utah State University, 1950.

Nadine T. Ashby .... Instructor in Business Education (1960)
B.A., Brigham Young University, 1936; M.A., Colorado State College, 1959.

Clarence D. Ashton .... Associate Professor of Horticulture (1951)
B.S., Brigham Young University, 1929.

Hyrum J. Babcock .... Associate Professor of Elementary Education (1954)
B.A., M.A., Ph.D., University of California, 1939, 1940, 1953.

Milton V. Backman, Jr. .... Professor of History of Religion (1960)
B.S., M.A., University of Utah, 1954, 1955; Ph.D., University of Pennsylvania, 1959.

Hugh Baird .... Associate Professor of Teacher Education (1963)
B.S., M.S., University of Utah, 1954, 1954; Ed.D., University of California at Berkeley, 1962.

Rey L. Baird .... Instructor in German (1961)
B.A., University of Utah, 1960; M.A., Brigham Young University, 1962.

Bertrand L. Ball, Jr. .... Assistant Professor of French (1962)
B.A., University of Redlands, 1953; M.S., Ph.D., University of Southern California, 1958, 1960.

VerDon W. Ballantyne .... Instructor in English (1963)
B.S., M.A., Brigham Young University, 1961, 1964.

Ariel S. Ballif .... Professor of Sociology (1938)
B.S., Brigham Young University, 1925; M.A., Ph.D., University of Southern California, 1937, 1945.

Jae R. Ballif .... Assistant Professor of Physics (1962)
B.S., Brigham Young University, 1953; M.A., Ph.D., University of California at Los Angeles, 1961, 1962.

Richard Ballou .... Assistant Professor of Music (1951)
B.A., M.A., Brigham Young University, 1948, 1953.

Blauer L. Bangerter .... Associate Professor of Physical Education (1953)
B.A., Brigham Young University, 1951; M.S., Ph.D., University of Utah, 1955, 1964.

Reid E. Bankhead .... Associate Professor of Religious Instruction (1949)
B.S., University of Utah, 1947; M.Th., Brigham Young University, 1949.

Dee H. Barker .... Professor of Chemical Engineering (1959)
B.S., Ph.D., University of Utah, 1948, 1951.

Frances P. Barlow .... Assistant Professor of Child Development and Family Relationships (1954)
B.S., University of Utah, 1933; M.Ed., Utah State University, 1938.

Howard W. Barnes .... Instructor in Business Management (1964)
B.A., Harvard College, 1955; M.B.A., University of Southern California, 1963.

J. Dean Barnett .... Associate Professor of Physics (1958)
B.A. University of Utah, 1954; Ph.D., University of Utah, 1959.

Ivan J. Barrett .... Assistant Professor of Religious Instruction (1953)
B.S., Utah State University, 1938; M.S., Brigham Young University, 1947.

Howard H. Barron .... Associate Professor of Religious Education (1953)
B.S., M.S., Utah State University, 1943, 1950; Ed.D., University of Utah, 1953.

Beth S. Bastian .... Assistant Professor of Housing and Home Management (1964)
B.S., Utah State University, 1950; M.S., Kansas State College, 1955.

Cliff S. Barton .... Professor of Civil Engineering (1959)
B.S., Utah State University, 1947; M.S., Ph.D., Rensselaer Polytechnic Institute, 1953, 1959.

C. Jill Bateman .... Instructor in Physical Education for Women (1965)
B.S., M.S., Utah State University, 1963, 1965.

J. LaVar Bateman .... Professor of Speech (1949)
B.A., Brigham Young University, 1941; M.S., Ph.D., University of Wisconsin, 1947, 1950.

Edith Bartholomew Bauer .... Professor of Educational Psychology (1945)
B.A., M.A., Brigham Young University, 1930, 1946; Ph.D., University of California (Berkeley), 1956.

Kathleen P. Bearnson .... Assistant Professor of Nursing (1964)
B.S., Brigham Young University, 1960; M.S., University of Utah, 1964.

D Elden Beck .... Professor of Zoology and Entomology (1938)
B.A., M.A., Brigham Young University, 1929, 1930; Ph.D., Iowa State College, 1933.

Jay V. Beck .... Professor of Bacteriology (1951)
B.A., M.A., Brigham Young University, 1933, 1936; Ph.D., University of California (Berkeley), 1940.

Wayne B. Beebe .... Assistant Professor of Mechanical Engineering (1958)
B.S., M.S., California Institute of Technology, 1951, 1952.

Elouise M. Bell .... Instructor in English (1963)
B.A., University of Arizona, 1957; M.A., Brigham Young University, 1959.

R. Dermont Bell .... Professor of Business Education (1957)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of Southern California, 1960.

B. West Belnap .... Professor of Religious Education; Dean of the College of Religious Instruction (1951)
B.S., Brigham Young University, 1946; M.A., Ed.D., Columbia University, 1950, 1951.

Parley L. Belnap .... Assistant Professor of Music (1965)
B.A., M.A., Brigham Young University, 1950, 1956; Premier Prix, Royal Flemish Conservatory, Belgium, 1960; Diplome Superieur, Royal Flemish Conservatory, Belgium, 1964.

W. Dwayne Belt .... Associate Professor of Secondary Education (1961)
B.A., Brigham Young University, 1952; M.A., Ed.D., Colorado State College, 1958, 1961.

George C. Bennion .... Instructor in English (1961)
B.A., Brigham Young University, 1949.

Marion Bennion .... Professor of Food and Nutrition (1952)
B.S., Utah State University, 1947; M.S., Teachers College, Columbia University, 1949; Ph.D., University of Wisconsin, 1956.

Robert C. Bennion .... Assistant Professor of Psychology (1961)
B.A., Brigham Young University, 1956; M.A., Ph.D., Ohio State University, 1959 1961.

Anthony I. Bentley .... Assistant Professor of Religious Instruction (1954)
B.A., Brigham Young University, 1930; M.A., University of Southern California, 1941.

Joseph T. Bentley .... Comptroller; Associate Professor of Accounting (1953)
B.S., M.S., Brigham Young University, 1928, 1954; C.P.A., State of Utah, 1946.

John T. Bernhard .... Dean of the College of Social Sciences; Professor of Political Science (1959)
B.S., Utah State University, 1941; M.A., Ph.D., University of California at Los Angeles, 1949, 1951.

LaMar C. Berrett .... Associate Professor of Religious Instruction (1963)
B.S., University of Utah, 1952; M.S., Ed.D., Brigham Young University, 1960, 1963.

Paul Orin Berrett .... Assistant Professor of Electrical Engineering (1964)
B.S., University of Utah, 1953; M.S., University of Southern California, 1955; Ph.D., University of Utah, 1965.

Max J. Berryessa .... Professor of Elementary Education (1948)
B.S., M.S., Brigham Young University, 1948, 1949; Ed.D., Stanford University, 1959.

Brian S. Best .... Instructor in English (1960)
B.S., M.A., Brigham Young University, 1958, 1962.

Larry Grant Best .... Instructor in English (1965)
B.A., M.A., Brigham Young University, 1963, 1966.

Myron G. Best .... Associate Professor of Geology (1965)
B.S., University of Utah, 1957; Ph.D., University of California at Berkeley, 1961.

James L. Bills .... Assistant Professor of Chemistry (1962)
B.S., University of Utah, 1958; Ph.D., Massachusetts Institute of Technology, 1963.

Harold J. Bissell .... Professor of Geology (1938)
B.S., Brigham Young University, 1934; M.S., Ph.D., University of Iowa, 1936, 1948.

Angus U. Blackham .... Professor of Chemistry (1952)
B.A., Brigham Young University, 1949; M.A., Ph.D., University of Cincinnati, 1950, 1952.

Robert W. Blair .... Assistant Professor of Linguistics (1959)
B.A., M.A., Brigham Young University, 1955, 1957; Ph.D., Indiana University, 1964.

Mae Blanch .... Assistant Professor of English (1958)
B.A., Brigham Young University, 1950.

Robert R. Boren .... Assistant Professor of Speech (1961)
B.A., M.A., Brigham Young University, 1958, 1960; Ph.D., Purdue University, 1965.

Walter D. Bowen .... Assistant Professor of Religious Education (1964)
B.S., M.S., Ed.D., Brigham Young University, 1957, 1958, 1965.

Catherine Bowles .... Clinical Instructor in Education (1960)
B.S., M.Ed., Brigham Young University, 1936, 1953.

Reed H. Bradford .... Professor of Sociology (1946)
B.A., Brigham Young University, 1937; M.A., Louisiana State University, 1939; M.A., Ph.D., Harvard University, 1941, 1946.

Rulon L. Bradley .... Professor of Communications (1965)
B.A., Brigham Young University, 1947; M.S., Ph.D., University of Utah, 1954, 1962.

Merrill K. Bradshaw .... Associate Professor of Music (1957)
B.A., M.A., Brigham Young University, 1954, 1955; M.Mus., University of Illinois, 1956; D.Mus.A., University of Illinois, 1962.

Willard H. Bradshaw .... Associate Professor of Bacteriology (1961)
B.S., M.S., Brigham Young University, 1952, 1953; Ph.D., University of California, 1957.

Marion B. Brady .... Associate Professor of English (1965)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., Universtiy of Utah, 1966.

Lee F. Braithwaite .... Assistant Professor of Zoology and Entomology (1962)
B.S., M.S., Ph.D., Brigham Young University, 1959, 1962, 1966.

Floyd E. Breinholt .... Assistant Professor of Art (1961)
B.S., M.E., Brigham Young University, 1937, 1953.

Willis H. Brimhall .... Assistant Professor of Geology (1956)
B.S., Brigham Young University, 1949; M.S., University of Arizona, 1951; B.E.S., Brigham Young University, 1960.

Ralph A. Britsch .... Professor of English (1938)
B.A., M.A., Brigham Young University, 1933, 1951.

H. Smith Broadbent .... Professor of Chemistry (1946)
B.S., Brigham Young University, 1942; Ph.D., Iowa State College, 1946.

Edwin Garth Brown .... Director of School of Social Work; Assistant Professor of Sociology (1965)
B.S., Brigham Young University, 1953; M.S., University of Utah, 1959.

J. Richard Brown .... Assistant Professor of Elementary Education (1956)
B.S., M.Ed., Brigham Young University, 1949, 1956.

Jack V. Brown .... Instructor in Spanish (1964)
B.A., M.A., Brigham Young University, 1957, 1960.

Thomas H. Brown .... Associate Professor of Languages (1959)
B.A., Brigham Young University, 1955; M.A., Ph.D., University of Illinois, 1957, 1960.

A/1C Garth O. Bryant .... Instructor in Aerospace Studies (1964)

Loren C. Bryner .... Professor of Chemistry (1935)
B.S., M.S., Brigham Young University, 1928, 1930; Ph.D., Iowa State College, 1934.

Maurine F. Bryner .... Special Instructor in Food and Nutrition (1957)
B.S., Brigham Young University, 1928.

Harold S. Budge .... Instructor in Psychology (1960)
B.S., M.S., Utah State University, 1958, 1960.

Wallace Don Budge .... Assistant Professor of Civil Engineering (1964)
B.S., M.S., Utah State University, 1959, 1961; Ph.D., University of Colorado, 1964.

Kenneth C. Bullock .... Professor of Geology (1943)
B.S., M.A., Brigham Young University, 1940, 1942; Ph.D., University of Wisconsin, 1949.

Robert E. Bunker .... Instructor in Physical Education (1949)
B.S., Utah State University, 1937.

Owen Robert Burgener .... Instructor in Health and Safety Education (1964)
B.S., Utah State University, 1953; M.P.H., University of California (Berkeley), 1964.

M. Dallas Burnett .... Assistant Professor of Communications (1958)
B.S., Brigham Young University, 1954; M.S.J., Northwestern University, 1958.

Wesley Burnside .... Assistant Professor of Art (1958)
B.S., M.S., Brigham Young University, 1941, 1949.

Percy E. Burrup .... Professor of Educational Administration (1952)
B.S., M.S., Utah State University, 1932, 1941; Ed.D., Colorado State College of Education, 1951.

Robert C. Burton .... Professor of Mathematics (1964)
B.S., Brigham Young University, 1956; Ph.D., University of North Carolina, 1963.

Jess R. Bushman .... Associate Professor of Geology (1955)
B.A., Brigham Young University, 1949; Ph.D., Princeton University, 1959.

Richard R. Bushman .... Associate Professor of History (1960)
B.A., Ph.D., Harvard University, 1955, 1961.

Eliot A. Butler .... Professor of Chemistry (1956)
B.S., Ph.D., California Institute of Technology, 1952, 1956.

Edwin J. Butterworth .... Assistant Professor of Journalism (1949)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1954.

Allene C. Calder .... Instructor in Homemaking Education (1965)
B.S., Brigham Young University, 1960; M.S., Oregon State University, 1965.

Glen H. Calder .... Assistant Professor of Civil Engineering (1955)
B.S., M.S., Utah State University, 1952, 1953.

Rose Eyring Calder .... Associate Professor of English (1964)
B.A., Brigham Young University, 1932; M.A., Columbia University, 1936; Ph.D., University of California, 1964.

Ara Om Call .... Assistant Professor of Animal Science (1965)
B.S., Iowa State College, 1933; M.S., University of Wisconsin, 1944.

C. Boyd Call .... Assistant Professor of Physical Education (1960)
B.S., University of Utah, 1950; Physical Therapy Certificate from Children's Hospital in Los Angeles, 1953; M.S. Brigham Young University, 1963.

Ivan T. Call .... Assistant Professor of Business Management (1963)
B.S., Brigham Young University, 1958; M.B.A., Indiana University, 1959.

Sterling G. Callahan .... Professor of Secondary Education (1953)
B.A., Brigham Young University, 1937; M.A., George Washington University, 1947; Ed.D., University of Virginia, 1953.

J. Elliot Cameron .... Professor of Education; Dean of Students (1962)
B.S., M.S., Brigham Young University, 1949, 1949.

Eugene E. Campbell .... Professor of History (1956)
B.A., M.A., University of Utah, 1939, 1940; Ph.D., University of Southern California, 1952.

L. Howard Campbell .... Assistant Professor and Director of Institutional Research (1962)
B.S., M.B.A., University of Utah, 1955, 1957.

William G. Canning .... Special Instructor in Sociology (1965)
B.S., Brigham Young University, 1963.

Clawson Y. Cannon, Jr. .... Associate Professor of Music (1949)
B.M., Eastman School of Music, University of Rochester, 1948; Diploma, Konservatorium Zurich, 1953; B.A., M.A., Brigham Young University, 1954, 1955.

John N. Cannon .... Assistant Professor of Mechanical Engineering (1957)
B.S., M.E., M.S., University of Utah, 1952, 1955; Ph.D., Stanford University, 1965.

Kenneth L. Cannon .... Professor of Child Development and Family Relationships (1956)
B.S., Brigham Young University, 1935; M.S., Ph.D., Iowa State College, 1948, 1954.

Louis B. Cardon .... Assistant Professor of History (1960)
B.A., University of Arizona, 1950; M.A., Ph.D., University of California (Berkeley), 1957, 1965.

June Carlisle .... Clinical Instructor in Education (1956)
B.S., M.S., Brigham Young University, 1958, 1960.

Gary Carlson .... Director of Computer Center; Associate Professor of Computer Science (1963)
B.A., M.A., Ph.D., University of California at Los Angeles, 1956, 1958, 1962.

Jeanne A. Carter .... Assistant Professor of Nursing (1964)
B.S., University of Utah, 1955; M.S., Brigham Young University, 1964.

Melvin W. Carter .... Professor of Statistics (1961)
B.S., Arizona State University, 1952; M.S., Ph.D., North Carolina State, 1954, 1956.

Arthur O. Chapman .... Associate Professor of Zoology (1959)
B.A., Brigham Young University, 1941; M.A., University of Kansas, 1949; Ph.D., University of Nebraska, 1953.

A. Norton Chaston .... Assistant Professor of Electrical Engineering (1957)
B.S., University of Utah, 1951; M.S., Brigham Young University, 1963.

Thomas E. Cheney .... Professor of English (1945)
B.S., Utah State University, 1930; M.A., University of Idaho, 1936.

E. Leon Chidester .... Special Instructor in Spanish (1964)
B.A., Brigham Young University, 1962.

Margaret Potter Childs .... Assistant Professor of Clothing and Textiles (1946)
B.S., Brigham Young University, 1939; M.S., Oregon State College, 1949.

Carl H. Christensen .... Instructor in Business Management (1965)
B.S., University of Utah, 1960; M.B.A., Harvard University, 1963.

Dean C. Christensen .... Professor of Education (1957)
B.S., M.S., Utah State University, 1938, 1948; Ed.D., University of Oregon, 1957.

Earl M. Christensen .... Professor of Botany (1949)
B.S., M.S., University of Utah, 1947, 1949; Ph.D., University of Wisconsin, 1954.

Edward L. Christensen .... Professor of Business Management (1953)
B.S., M.S., Ph.D., University of Utah, 1938, 1939, 1953.

James J. Christensen .... Professor of Chemical Engineering (1957)
B.S., M.S., University of Utah, 1953, 1956; Ph.D., Carnegie Institute of Technology, 1957.

Ross T. Christensen .... Associate Professor of Anthropology and Archaeology (1952)
B.A., M.A., Brigham Young University, 1943, 1947; Ph.D., University of Arizona, 1956.

Henry N. Christiansen .... Associate Professor of Civil Engineering (1965)
B.S., Utah State University, 1957; M.S., Ph.D., Stanford University, 1958, 1962.

John R. Christiansen .... Professor of Sociology (1957)
B.S., M.S., Utah State University, 1949, 1952; Ph.D., University of Wisconsin, 1955.

Bruce B. Clark .... Professor of English; Dean of the College of Humanities (1950)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Utah, 1951.

Dwight P. Clark .... Assistant Professor of Chemical Engineering (1964)
B.S., University of Utah, 1960; Ph.D., Oregon State University, 1965.

Harold Glen Clark .... Professor of Education; Dean of Continuing Education (1946)
B.S., Brigham Young University, 1928; M.S., University of Southern California, 1934; Ed.D., George Washington University, 1942.

Hazel C. Clark .... Clinical Instructor in Education (1952)
B.S., University of Utah, 1938; M.S., Brigham Young University, 1957.

Herald R. Clark .... Professor of Finance and Banking (1913)
B.A., Brigham Young University, 1918; M.B.A., University of Washington, 1924.

Hoover W. Clark .... Assistant Professor of French (1964)
B.A., M.A., Brigham Young University, 1954, 1958; Ph.D., Syracuse University, 1964.

J. Reuben Clark, III .... Professor of French and Classical Languages (1941)
B.A., University of Utah, 1934.

James R. Clark .... Professor of Religious Education (1938)
B.A., M.A., Brigham Young University, 1936, 1944; Ed.D., Utah State University, 1958.

Marden J. Clark .... Professor of English (1949)
B.A., M.A., Brigham Young University, 1948, 1949; Ph.D., University of Washington, 1957.

Monroe H. Clark .... Associate Professor of Philosophy of Education and Guidance (1945)
B.A., Columbia University, 1923; M.A., Brigham Young University, 1927.

Wayne W. Clark .... Professor of Economics (1962)
B.A., Brigham Young University, 1952; Ph.D., Texas A & M, 1960.

A. John Clarke .... Professor of Education (1938)
B.S., M.S., Brigham Young University, 1938, 1942; Ed.D., Colorado University, 1950.

John C. Clegg .... Associate Professor of Electrical Engineering (1961)
B.S., M.S., Ph.D., University of Utah, 1949, 1954, 1957.

Morris M. Clinger .... Associate Professor of Speech (1936)
B.A., M.A., Brigham Young University, 1932, 1946; Ph.D., University of Minnesota, 1963.

Coran L. Cluff .... Assistant Professor of Chemistry (1960)
B.S., Arizona State University, 1952; M.S., Ph.D., University of Michigan, 1955, 1960.

Lane A. Compton .... Professor of Physical Science Education (1953)
B.S., M.S., Ed.D., University of Utah, 1943, 1951, 1955.

Merlin D. Compton .... Associate Professor of Spanish (1964)
B.A., M.A., Brigham Young University, 1952, 1954; Ph.D., University of California at Los Angeles, 1959.

John Richard Connelly .... Special Instructor in Child Development and Family Relationships (1965)
B.A., Brigham Young University, 1964.

Rita Conrad .... Instructor in Nursing (1963)
Diploma, University of Alberta, 1959; B.S., University of Alberta, 1960.

Alan D. Cook .... Instructor in Religious Instruction (1962)
B.A., M.A., Brigham Young University, 1954, 1958.

Ivan L. Corbridge .... Professor of Economics (1952)
B.A., Utah State University, 1946; M.S., University of Chicago, 1948; Ph.D., Washington State College, 1952.

Milford C. Cottrell .... Assistant Professor of Secondary Education (1964)
B.A., University of Wyoming, 1948; M.S., Ed.D., Brigham Young University, 1956, 1961.

Stephen R. Covey .... Assistant Professor of Business Management; Administrative Assistant to President (1957)
B.S., University of Utah, 1953; M.B.A., Harvard Graduate School of Business Administration, 1957.

Richard O. Cowan .... Assistant Professor of History of Religion (1961)
B.A., Occidental College, 1958; M.A., Ph.D., Stanford University, 1959, 1961.

Charles M. Cox .... Instructor in Business Management (1965)
B.S., Brigham Young University, 1955; M.B.A., Harvard University, 1961.

Soren F. Cox .... Associate Professor of English (1955)
B.A., M.A., Brigham Young University, 1952, 1956; Ph.D., University of Minnesota, 1964.

Richard H. Cracroft .... Instructor in English (1963)
B.A., M.A., University of Utah, 1961, 1963.

Marshall R. Craig .... Assistant Professor of English (1953)
B.S., Brigham Young University, 1941; M.A., Columbia University, 1947.

Earl C. Crockett .... Academic Vice-President of the University; Professor of Economics (1957)
B.S., University of Utah, 1927; Ph.D., University of California, 1931.

Evan M. Croft .... Associate Professor of Business Education (1936)
B.S., Brigham Young University, 1929; M.S., University of Southern California, 1940.

Walter Cryer .... Assistant Professor of Physical Education (1964)
B.S., M.S., University of Illinois, 1952, 1959.

Bert P. Cundick .... Associate Professor of Psychology (1962)
B.A., M.S., University of Utah, 1957, 1959; Ph.D., Ohio State University, 1962.

Brandt B. Curtis .... Assistant Professor of Music (1955)
B.A., Brigham Young University, 1953; M.Mus., Indiana University, 1955.

Linda Custer .... Instructor in Nursing (1966)
B.S., Brigham Young University, 1962.

Virginia F. Cutler .... Professor of Home Economics; Dean of the College of Family Living (1961)
B.S., University of Utah, 1926; M.A., Stanford University, 1937; Ph.D., Cornell University, 1946.

Delva Daines .... Professor of Elementary Education (1955)
B.S., M.S., Utah State University, 1940, 1947; Ed.D., Washington State University, 1956.

Robert H. Daines .... Assistant Professor of Business Management (1959)
B.S., Utah State University, 1956; M.B.A., Stanford University, 1959.

David J. Dalton .... Instructor in Music (1963)
B.M., M.M., Eastman School of Music, 1959, 1961.

Philip B. Daniels .... Associate Professor of Psychology (1961)
B.S., M.S., Brigham Young University, 1954, 1957; Ph.D., Harvard University, 1962.

Alexander B. Darais .... Assistant Professor of Art (1954)
B.S., Brigham Young University, 1948; M.F.A., Claremont Graduate School, 1952.

Bertha B. Davidson .... Clinical Instructor in Elementary Education (1950)
B.S., M.Ed., Brigham Young University, 1950, 1954.

J. Kenneth Davies .... Professor of Economics (1953)
B.S., Marquette University, 1945; M.S., Brigham Young University, 1950; Ph.D., University of Southern California, 1959.

D. Evan Davis .... Professor of Music (1965)
B.A., University of California at Los Angeles, 1946; M.A., Northwestern University, 1948; Ph.D., University of Oregon, 1953.

Fred P. Davis .... Wrestling Coach; Instructor in Physical Education (1964)
B.S., Oklahoma State University, 1957.

Harrison M. Davis .... Instructor in English (1962)
B.S., M.A., Utah State University, 1961, 1963.

C. Edwin Dean .... Associate Professor of Mathematics (1949)
B.S., M.S., Brigham Young University, 1948, 1952; M.S., University of Michigan, 1955.

Daniel L. Decker Associate Professor of Physics (1958)
B.S., M.S., Brigham Young University, 1953, 1955; Ph.D., University of Illinois, 1958.

Harry C. Dees Instructor in Library Science (1959)
B.A., Brigham Young University, 1949; M.A., University of California, 1950.

Benjamin F. deHoyos Instruction in Recreation Education (1961)
B.S., M.A., Brigham Young University, 1956, 1961.

Gerrit de Jong, Jr. Professor of Modern Languages; Dean Emeritus, College of Fine Arts (1925)
B.A., M.A., University of Utah, 1920, 1925; Ph.D., Stanford University, 1933.

Thelma B. de Jong Clinical Instructor in Secondary Education (1957)
B.A., Southern Idaho College of Education, 1948; M.A., Brigham Young University, 1957.

Stanford D. DeMille Instructor in Business Education (1957)
B.S., M.S., Brigham Young University, 1950, 1960.

Maureen Derrick Instructor in English (1963)
B.A., University of Utah, 1959; M.A., Brigham Young University, 1965.

William E. Dibble Associate Professor of Physics (1961)
B.S., Ph.D., California Institute of Technology, 1954, 1960.

Dwight R. Dixon Professor of Physics (1959)
B.S., Utah State University, 1942; Ph.D., University of California, 1955.

Fred W. Dixon Assistant Professor of Physical Education, (1928)
B.S., M.S., Brigham Young University, 1926, 1939.

Mignon S. Domgaard Instructor in Clothing and Textiles (1954)
B.S., Utah State University, 1943; M.S., Oregon State College, 1954.

David M. Donaldson Professor of Bacteriology (1955)
B.S., M.S., Ph.D., University of Utah, 1950, 1952, 1954.

Arthur A. Done Assistant Professor of Business Management (1961)
B.S., M.B.A., University of Utah, 1955, 1956; Ph.D., University of Illinois, 1963.

G. Byron Done Professor of Scripture (1956)
B.A., University of Utah, 1928; M.A., Ph.D., University of Southern California, 1937, 1939.

May Dowlin Instructor in Library Science (1964)
B.A., Hastings College, 1959; M.A., University of Denver, 1960.

Lester N. Downing Professor of Educational Psychology (1954)
B.S., M.S., Utah State University, 1947, 1949; Ed.D., Colorado State College of Education, 1951.

Roy W. Doxey Professor of Scripture (1948)
B.A., M.A., George Washington University, 1938, 1940.

Willard B. Doxey Associate Professor of Economics (1956)
B.S., M.S., University of Utah, 1937, 1947; Ph.D., University of California (Berkeley), 1956.

J. Duane Dudley Associate Professor of Physics (1956)
B.S., Brigham Young University, 1952; M.A., Rice Institute, 1953; Ph.D., University of Utah, 1959.

Claude B. Duerden Assistant Professor of Indian Education (1958)
B.S., University of Utah, 1950; M.P.H., University of California (Berkeley), 1954.

James T. Duke Associate Professor of Sociology (1963)
B.A., M.A., University of Utah, 1957, 1958; Ph.D., University of California at Los Angeles, 1963.

William G. Dyer Professor of Sociology (1955)
B.A., M.A., Brigham Young University, 1950, 1952; Ph.D., University of Wisconsin, 1955.

L. Brent Eagar Associate Professor of Business Management (1959)
B.S.E.E., University of Utah, 1957; M.B.A., University of Michigan, 1959; D.B.A., University of Washington, 1965.

Don L. Earl Professor of Music (1946)
B.A., M.A., Brigham Young University, 1940, 1947; Ph.D., Indiana University, 1952.

Gary W. Earnest .... Instructor in Physical Education (1964)
B.S., M.S., Brigham Young University, 1961, 1963.

E. John Eastmond .... Professor of Physics (1951)
B.A., Brigham Young University, 1937; Ph.D., University of California (Berkeley), 1943.

R. LaVell Edwards .... Instructor in Physical Education (1965)
B.S., Utah State University, 1952; M.S., University of Utah, 1960.

Robert L. Egbert .... Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1947, 1948; Ph.D., Cornell University, 1949.

Russell J. Egbert .... Assistant Professor of Mathematics (1963)
B.A., University of California at Riverside, 1960; M.S., University of Arizona, 1961.

Richard Grant Ellsworth .... Associate Professor of English (1958)
B.A., M.A., Brigham Young University, 1951, 1952; Ph.D., University of Maryland, 1958.

Glenn L. Enke .... Professor of Civil Engineering (1962)
B.S., University of California, 1928.

Ross S. Esplin .... Assistant Professor of English (1964)
B.A., M.A., Brigham Young University, 1947, 1949.

David L. Evans .... Assistant Professor of English (1954)
B.A., Idaho State College, 1948; M.A., University of Utah, 1953.

LeRoy G. Faerber .... Assistant Professor of Business Management (1965)
B.S., M.B.A., University of Utah, 1958, 1959; D.B.A., University of Washington, 1964.

Merwin G. Fairbanks .... Instructor in Communications (1962)
B.A., M.A., Brigham Young University, 1941, 1964.

Dean B. Farnsworth .... Professor of English (1953)
B.A., M.A., University of Utah, 1946, 1947; Ph.D., University of California (Berkeley), 1950.

Lee W. Farnsworth .... Associate Professor of Political Science (1964)
B.A., M.A., University of California at Berkeley, 1957, 1960; Ph.D., Claremont Graduate School, 1963.

Raymond B. Farnsworth .... Professor of Agronomy (1946)
B.S., Brigham Young University, 1937; M.S., Massachusetts State College, 1938; Ph.D., Ohio State University, 1941.

J. Earl Faulkner .... Assistant Professor of Statistics (1963)
B.S., Utah State University, 1950; M.S., Kansas State Universty, 1952; Ph.D., University of Minnesota, 1964.

Lawrence Fearnley .... Professor of Mathematics (1957)
B.S., London University, 1953; Ph.D., University of Utah, 1959.

Lottie L. Felkner .... Assistant Professor of Nursing; Director of Associate Degree Program (1963)
Diploma, St. Mark's Hospital, 1948; B.S., M.S., University of Utah, 1953, 1961.

Paul E. Felt .... Assistant Professor of Indian Education (1957)
B.A., Brigham Young University, 1942; M.S., University of Utah, 1954.

D. Allan Firmage .... Professor of Engineering (1955)
B.S., University of Utah, 1940; M.S., Massachusetts Institute of Technology, 1941.

Sherman K. Fitzgerald .... Associate Professor of Sociology (1963)
B.S., M.S., Brigham Young University, 1948, 1951; Ph.D., Cornell University, 1952.

Chad J. Flake .... Instructor in Library Science (1953)
B.A., Brigham Young University, 1953; M.A., University of Denver, 1955.

Royce P. Flandro .... Associate Professor of Secondary Education (1953)
B.S., M.S., University of Utah, 1948, 1950; Ed.D., University of Indiana, 1957.

Dale T. Fletcher .... Instructor in Art (1965)
B.S., Utah State University, 1953; M.A., University of California at Berkeley, 1956.

Harvey J. Fletcher .... Professor of Mathematics (1953)
B.S., Massachusetts Institute of Technology, 1944; M.S., California Institute of Technology, 1948; Ph.D., University of Utah, 1954.

Marvin H. Folsom .... Associate Professor of German (1961)
B.A., M.A., Brigham Young University, 1956, 1957; Ph.D., Cornell University, 1961.

Victor G. Forsnes .... Instructor in Mechanical Engineering (1965)
B.S., M.S., Brigham Young University, 1964, 1965.

Paul P. Forster .... Instructor in Art (1965)
B.A., Brigham Young University, 1952.

Rulon S. Francis .... Instructor in Physical Education (1963)
B.S., Brigham Young University, 1952; Registered Physical Therapist, University of Southern California, 1954.

Joseph C. Free .... Assistant Professor of Mechanical Engineering (1961)
B.E.S., Brigham Young University, 1958; M.S., California Institute of Technology, 1961.

Herbert H. Frost .... Associate Professor of Zoology (1960)
B.A., M.A., Brigham Young University, 1941, 1947; Ph.D., Cornell University, 1955.

Dean K. Fuhriman .... Professor of Engineering (1954)
B.S., M.S., Utah State University, 1941, 1950; Ph.D., University of Wisconsin, 1952.

LaVell C. Gamett .... Assistant Professor of Industrial Education (1946)
B.S., Brigham Young University, 1935; M.S., University of Oregon, 1951.

Andrew L. Gardner .... Professor of Physics (1964)
B.S., Utah State University, 1940; Ph.D., University of California (Berkeley), 1955.

John H. Gardner .... Professor of Physics (1949)
B.S., Utah State University, 1943; M.A., Ph.D., Harvard University, 1947, 1950.

Willard H. Gardner .... Senior Systems Analyst of Computer Center; Assistant Professor of Computer Science (1963)
B.S., Utah State University, 1948; M.S., Brigham Young University, 1956.

Lynn E. Garner .... Instructor in Mathematics (1963)
B.S., Brigham Young University, 1962; M.A., University of Utah, 1964.

Byron W. Gassman .... Associate Professor of English (1960)
B.A., Brigham Young University, 1955; M.A., Ph.D., University of Chicago, 1956, 1960.

David D. Geddes .... Professor of Health and Physical Education for Men (1952)
B.S., M.S., Brigham Young University, 1950, 1952; Ph.D., University of Southern California, 1959.

Marise A. Geddes .... Assistant Professor of Nursing (1962)
Diploma, St. Luke's Hospital, Boise, Idaho, 1945; B.S., M.S., Brigham Young University, 1952, 1962.

Burton C. Gee .... Assistant Professor of Mathematics (1960)
B.S., Brigham Young University, 1951; M.S., Ed.D., Oregon State University, 1958, 1965.

O. Norman Geertsen .... Assistant Professor of Physics (1941)
B.S., Brigham Young University, 1930; M.S., University of California at Los Angeles, 1951.

Gay V. Genet .... Instructor in Child Development and Family Relationships (1962)
B.S., M.S., Brigham Young University, 1960, 1964.

Sara Lee Gibb .... Special Instructor in Physical Education for Women (1965)
B.A., Brigham Young University, 1959.

Rendol L. Gibbons .... Assistant Professor of Music (1964)
B.A., M.A., Arizona State College, 1947, 1954.

M. Carl Gibson .... Professor of Spanish (1949)
B.A., M.A., Brigham Young University, 1947, 1949; Ph.D., University of Oregon, 1960.

Gurcharan S. Gill .... Assistant Professor of Mathematics (1960)
B.S., Brigham Young University, 1958; M.S., Ph.D., University of Utah, 1960, 1965.

Preston R. Gledhill .... Professor of Dramatic Arts (1947)
Degré Supérieur, La Sorbonne, 1938; B.A., Brigham Young University, 1939; M.A., Louisiana State University, 1940; Ph.D., University of Wisconsin, 1951.

J. Rex Goates .... Professor of Chemistry (1947)
B.S., Brigham Young University, 1942; Ph.D., University of Wisconsin, 1947.

Margaret W. Goff .... Instructor in English (1964)
B.A., Stanford University, 1942; M.A., University of Utah, 1962.

Max C. Golightly .... Assistant Professor of Dramatic Arts (1960)
B.A., M.A., Brigham Young University, 1950, 1959.

A. Harold Goodman .... Professor of Music (1960)
B.A., University of Arizona, 1947; M.A., Ed.D., University of Southern California, 1951, 1960.

Nan Osmond Grass .... Assistant Professor of English (1951)
B.A., Brigham Young University, 1930; M.A., Stanford University, 1954.

John A. Green .... Associate Professor of French (1964)
B.A., M.A., Brigham Young University, 1954, 1955; Ph.D., University of Washington, 1960.

Alan H. Grey .... Assistant Professor of Geography (1964)
B.A., Brigham Young University, 1959; M.S., Ph.D., University of Wisconsin, 1960, 1963.

Lue S. Groesbeck .... Instructor in Music (1957)
B.A., Brigham Young University, 1948.

Stewart L. Grow .... Professor of History and Political Science;
Director, Institute of Government Service (1947)
B.S., M.S., Brigham Young University, 1935, 1948; Ph.D., University of Utah, 1954.

Clark J. Gubler .... Professor of Chemistry (1958)
B.A., Brigham Young University, 1939; M.A., Utah State University, 1941; Ph.D., University of California, 1945.

Donworth V. Gubler .... Assistant Professor of Russian (1954)
B.A., M.A., Brigham Young University, 1948, 1949.

Richard L. Gunn .... Professor of Art and Education (1948)
B.S., M.S., Brigham Young University, 1947, 1950; Ed.D., Stanford University, 1955; Banff School of Fine Arts.

LeRoy R. Hafen .... Professor of History (1954)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1919; Ph.D., University of California, 1924; Litt.D., University of Colorado, 1935.

William J. Hafen .... Assistant Professor of Recreation Education (1954)
B.S., Brigham Young University, 1950; M.A., State College of Washington, 1953; D.R., Indiana University, 1960.

Wayne B. Hales .... Professor of Physics and Mathematics (1930)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1922; Ph.D., California Institute of Technology, 1926.

Julia Patricia Halgren .... Special Instructor in English (1965)
B.A., Brigham Young University, 1960.

Blaine H. Hall .... Instructor in English (1963)
B.S., M.A., Brigham Young University, 1960, 1965.

H. Tracy Hall .... Professor of Chemistry; Director of the Research Division (1955)
B.S., M.S., Ph.D., University of Utah, 1942, 1943, 1948.

John R. Halliday .... Professor of Music (1936)
B.A., M.A., Brigham Young University, 1935, 1936; Ph.D., Eastman School of Music, University of Rochester, 1941.

Lawson O. Hamblin .... Assistant Professor of Library Science (1948)
B.A., Brigham Young University, 1938; LL.B., Washington College of Law, American University, 1948.

William K. Hamblin .... Associate Professor of Geology (1963)
B.A., M.S., Brigham Young University, 1953, 1954; Ph.D., University of Michigan, 1958.

Richard W. Hanks .... Assistant Professor of Chemical Engineering (1963)
B.E., Yale University, 1957; Ph.D., University of Utah, 1960.

Garth M. Hansen .... Special Instructor in Spanish (1965)
B.A., Brigham Young University, 1961.

George H. Hansen .... Professor of Geology and Geography (1927)
B.S., Utah State University, 1918; M.S., Ph.D., George Washington University, 1925, 1927.

Harold I. Hansen .... Professor of Dramatic Arts (1952)
B.S., Utah State University, 1937; M.A., Ph.D., State University of Iowa, 1940, 1949.

Henry K. Hansen .... Assistant Professor of Physics and Astronomy (1963)
B.S., M.S., Brigham Young University, 1957, 1959; Ph.D., University of California, 1963.

Terrence L. Hansen .... Professor of Spanish (1960)
B.A., University of Utah, 1946; M.A., Ph.D., Stanford University, 1948, 1950.

Kenneth R. Hardy .... Professor of Psychology (1954)
B.A., M.A., University of Utah, 1948, 1949; Ph.D., University of Michigan, 1954.

Frank W. Harmon .... Assistant Professor of Elementary Education (1963)
B.S., M.S., University of Utah, 1952, 1956; Ed.D., Columbia University, 1964.

Callis R. Harms .... Assistant Professor of Educational Administration (1960)
B.S., M.Ed., Brigham Young University, 1952, 1956; Ed.D., Arizona State University, 1961.

James M. Harris .... Associate Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1952, 1953; Ph.D., Cornell University, 1955.

John B. Harris .... Assistant Professor of English (1958)
B.A., M.A., Brigham Young University, 1955, 1956; Ph.D., Wayne State University, 1965.

John S. Harris .... Assistant Professor of English (1962)
B.A., M.A., Brigham Young University, 1953, 1958.

Bertrand F. Harrison .... Professor of Botany (1929)
B.S., M.S., Brigham Young University, 1930, 1931; Ph.D., University of Chicago, 1937.

B. Kent Harrison .... Associate Professor of Physics (1964)
B.S., Brigham Young University, 1955; M.A., Ph.D., Princeton University, 1958, 1959.

Betty D. Harrison .... Assistant Professor of Educational Psychology (1961)
B.S., M.S., Ph.D., Brigham Young University, 1959, 1960, 1965.

Charles J. Hart .... Professor of Recreation and of Physical and Health Education (1925)
B.S., Utah State University, 1922; M.A., Ed.D., New York University, 1932, 1945.

David K. Hart .... Assistant Professor of Political Science (1960)
B.S., Brigham Young University, 1957; M.A., University of California at Berkeley, 1960; Ph.D., Claremont Graduate School, 1965.

Edward L. Hart .... Professor of English (1952)
B.S., University of Utah, 1939; M.A., University of Michigan, 1941; Ph.D., Oxford University (England), 1950.

Larry D. Hartman .... Instructor in Business Education (1964)
B.S., M.S., Brigham Young University, 1962, 1964.

Leon R. Hartshorn .... Assistant Professor of Religious Instruction (1965)
B.S., M.S., Brigham Young University, 1956, 1959; Ed.D., Stanford University, 1965.

Milton F. Hartvigsen .... Professor of Physical Education; Dean of the College of Physical Education (1956)
B.S., M.Ed., Utah State University, 1930, 1939; Ed.D., University of California at Los Angeles, 1956.

Captain Loyal D. Hastings .... Assistant Professor of Aerospace Studies (1963)
B.S., Brigham Young University, 1955.

Frank W. Hatch .... Instructor in Physical Education for Women (1965)
B.A., M.A., Brigham Young University, 1965, 1966.

Floyd E. Haupt .... Assistant Professor of Mathematics (1954)
B.S., M.S., University of Arizona, 1947, 1948.

Nena Rey Hawkes .... Special Instructor in Physical Education for Women (1961)
B.S., Utah State University, 1954; M.S., Brigham Young University, 1965.

Stephen J. Hawkes .... Assistant Professor of Chemistry (1964)
B.S., Ph.D., University of London, 1953, 1963.

Richard T. Hawkins .... Associate Professor of Chemistry (1959)
B.A., Brigham Young University, 1951; Ph.D., University of Illinois, 1959.

Darwin L. Hayes .... Instructor in English (1961)
B.A., M.A., Brigham Young University, 1957, 1963.

C. Lynn Hayward .... Professor of Zoology (1930)
B.S., M.S., Brigham Young University, 1927, 1931; Ph.D., University of Illinois, 1941.

Alma Heaton .... Assistant Professor of Recreation Education (1953)
B.S., M.S., Utah State University, 1950, 1951.

Howard S. Heaton .... Assistant Professor of Mechanical Engineering (1963)
B.S., University of Southern California, 1957; M.S., Ph.D., Stanford University, 1959, 1963.

Israel C. Heaton .... Professor of Recreation Education (1956)
B.S., M.S., Utah State University, 1940, 1941; Re.D., University of Indiana, 1955.

E. Dean Henderson .... Clinical Instructor in Education (1964)
B.S., M.E., Utah State University, 1936, 1958.

Charles A. Henson .... Instructor in Dramatic Arts (1958)
B.S., M.S., Brigham Young University, 1957, 1958.

Karl P. Herde, Jr. .... Instructor in Accounting (1957)
B.S., M.S., Brigham Young University, 1949, 1956.

Wayne R. Herlin .... Assistant Professor of Educational Psychology (1964)
B.A., University of Utah, 1953; M.A., Stanford University, 1956; Ph.D., University of Utah, 1963.

Wilford M. Hess .... Associate Professor of Botany (1962)
B.S., Brigham Young University, 1957; M.S., Ph.D., Oregon State University, 1960, 1962.

Jean-Pierre Heudier .... Instructor in French (1960)
B.A., Montana State University, 1957; M.A., Brigham Young University, 1960.

Dustin H. Heuston .... Assistant Professor of English (1959)
B.A., Hamilton College, 1954; M.A., Stanford University, 1959.

John C. Higgins .... Instructor in Mathematics (1961)
B.A., M.A., Brigham Young University, 1958, 1960.

Armin J. Hill .... Professor of Physics; Dean of the College of Physical and Engineering Sciences (1957)
B.S., M.S., Montana State College, 1932, 1938; M.S., Ph.D., California Institute of Technology, 1949, 1950.

L. Douglas Hill .... Instructor in English (1959)
B.S., Brigham Young University, 1954.

Max W. Hill .... Associate Professor of Physics (1958)
B.A., Brigham Young University, 1954; Ph.D., University of California, 1959.

Kenneth L. Hillam .... Associate Professor of Mathematics (1957)
B.S., M.S., University of Utah, 1949, 1956; Ph.D., University of Colorado, 1962.

Ray C. Hillam .... Associate Professor of Political Science (1960)
B.A., University of Utah, 1955; M.A., George Washington University, 1958; Ph.D., American University, 1964.

Horace G. Hilton .... Assistant Professor of Statistics (1962)
B.S., Brigham Young University, 1957; M.S., Ph.D., North Carolina State College, 1960, 1962.

Edwin C. Hinckley .... Associate Professor of Industrial Education (1963)
B.S., M.S., Oregon State University, 1950, 1956; Ed.D., Colorado State College, 1963.

Lehi F. Hintze .... Professor of Geology (1955)
B.A., University of Utah, 1941; M.A., Ph.D., Columbia University, 1949, 1951.

Willard M. Hirschi .... Assistant Professor of Health Education (1964)
B.S., Brigham Young University, 1956; M.A., Arizona State University, 1960.

Cyntha C. Hirst .... Assistant Professor of Physical Education for Women (1965)
B.S., University of Utah, 1947; M.S., University of Washington, 1952.

Leona Holbrook .... Professor of Physical Education (1937)
B.S., University of Utah, 1929; M.A., Ed.D., Columbia University, 1935, 1950.

Ivin L. Holt .... Assistant Professor of Engineering Technology (1963)
B.S., Brigham Young University, 1957; M.Ed., Pennsylvania State University, 1958.

Shirl J. Hone .... Instructor in Mathematics (1959)
B.S., Utah State University, 1949; M.S., Northwestern University, 1952.

Keith H. Hoopes .... Associate Professor of Animal Science (1957)
B.S., Utah State University, 1957; D.V.M., State College of Washington, 1956.

Russell N. Horiuchi .... Assistant Professor of Geography (1961)
B.A., Brigham Young University, 1943; M.A., University of California, 1958.

A. Burt Horsley .... Associate Professor of Philosophy and Religion (1956)
B.A., M.A., Brigham Young University, 1945, 1954; Dd.P., Münster University, 1955; Ph.D., Westphalian Welhelms Universität, Münster, Germany, 1956.

Frank K. Horton .... Assistant Professor of English (1955)
B.A., Brigham Young University, 1951; M.A., University of Southern California, 1957.

Marvin D. Horton .... Assistant Professor of Chemical Engineering (1963)
B.S., Ph.D., University of Utah, 1957, 1961.

William A. Hoskisson .... Associate Professor of Bacteriology (1957)
B.S., M.S., Utah State University, 1938, 1941; Ph.D., University of Illinois, 1944.

Donald H. Howard .... Instructor in Library Science (1964)
B.A., University of Idaho, 1963; M.L.S., University of California (Berkeley), 1964.

Alice E. Howe .... Instructor in English (1959)
B.A., M.A., Brigham Young University, 1958, 1961.

Robert J. Howell .... Professor of Psychology (1952)
B.A., M.A., Ph.D., University of Utah, 1948, 1949, 1951.

Ernest D. Hubbard .... Assistant Professor of Accounting (1963)
B.S., Utah State University, 1952; M.B.A., University of Utah, 1959.

Tommy J. Hudspeth .... Instructor in Physical Education; Head Football Coach (1964)
B.A., University of Tulsa, 1953.

DeVerl S. Humpherys .... Associate Professor of Electrical Engineering (1964)
B.S., Brigham Young University, 1955; M.S., University of Utah, 1957; Ph.D., University of Illinois, 1963.

O. Glade Hunsaker .... Instructor in English (1964)
B.S., Utah State University; M.A., Brigham Young University, 1964.

Paul V. Hyer .... Associate Professor of History (1957)
B.A., Brigham Young University, 1951; M.A., Ph.D., University of California, 1953, 1960.

Carlton A. Infanger .... Assistant Professor of Agricultural Economics (1965)
B.S., M.S., Ph.D., Montana State College, 1955, 1956, 1964.

Reed M. Izatt .... Professor of Chemistry (1956)
B.S., Utah State University, 1951; Ph.D., Pennsylvania State University, 1954.

Ramona M. Jacob .... Clinical Instructor in Education (1962)
B.A., Brigham Young University, 1942.

Briant S. Jacobs .... Professor of English (1946)
B.A., Brigham Young University, 1939; Ph.D., State University of Iowa, 1944.

M. Alberta Jacobs .... Special Instructor in Languages (1962)
B.A., Brigham Young University, 1959.

Phyllis C. Jacobson .... Assistant Professor of Physical Education for Women (1957)
B.S., M.S., Utah State University, 1953, 1954.

M. Wells Jakeman .... Professor of Anthropology and Archaeology (1946)
B.A., University of Utah, 1931; M.A., University of Southern California, 1932; Ph.D., University of California, 1938.

Sherald W. James .... Instructor in Health Education (1962)
B.S., M.S., Brigham Young University, 1956, 1962.

Ronald D. Jamison .... Assistant Professor of Mathematics (1963)
B.S., Brigham Young University, 1957; Ph.D., University of Utah, 1965.

August W. Jaussi .... Associate Professor of Zoology (1962)
B.S., University of Idaho, 1953; M.S., Brigham Young University, 1955; Ph.D., Oklahoma State University, 1960.

Ronda H. Jenkins .... Instructor in Industrial Technology (1964)
B.S., Brigham Young University, 1955.

Allene Jensen .... Instructor in Library Science (1961)
B.A., M.S., University of Utah, 1930, 1957.

Clayne R. Jensen .... Associate Professor of Physical Education (1964)
B.S., M.S., University of Utah, 1952, 1956; P.E.D., Indiana University, 1963.

De Lamar Jensen .... Professor of History (1957)
B.A., Brigham Young University, 1952; M.A., Ph.D., Columbia University, 1953, 1957.

Don C. Jensen .... Instructor in French (1963)
B.A., M.A., Brigham Young University, 1960, 1963.

Gary L. Jensen .... Assistant Professor of Physics (1965)
B.S., Utah State University, 1958; M.S., Ph.D., University of Michigan, 1960, 1964.

James A. Jensen .... Curator of Geology (1961)

Larry C. Jensen .... Assistant Professor of Psychology (1965)
B.S., M.S., Brigham Young University, 1960, 1961.

Mary B. Jensen .... Assistant Professor of Recreation Education (1953)
B.A., Park College of Missouri, 1939; M.A., Brigham Young University, 1963.

Vern H. Jensen .... Professor of Psychology; Director of Counseling Service (1949)
B.S., M.S., Brigham Young University, 1948, 1950; Ed.D., University of Colorado, 1957.

Gloria D. Jenson .... Assistant Professor of Library Science (1954)
B.S., Brigham Young University, 1950; M.S., Columbia University, 1954.

Ernest C. Jeppsen .... Professor of Industrial Education; Dean of the College of Industrial and Technical Education (1959)
B.S., Utah State University, 1926; M.S., Colorado State University, 1938.

J. Lorin Jex .... Assistant Professor of Speech (1949)
B.A., M.A., Brigham Young University, 1947, 1950.

Carl R. Johansen .... Instructor in Physics (1964)
B.A., Ph.D., Brigham Young University, 1960, 1965.

Franz M. Johansen .... Assistant Professor of Art (1956)
B.A., M.A., Brigham Young University, 1955, 1960; Illinois Institute of Technology, California School of Arts and Crafts, Acadamie de la Grand Chaumiere.

Barry L. Johnson .... Instructor in Sociology and Anthropology (1965)
B.S., M.S., Brigham Young University, 1963, 1965.

Eldred A. Johnson .... Associate Professor of Accounting (1955)
B.A., M.A., Brigham Young University, 1949, 1950; C.P.A., California, 1952.

H. Thayne Johnson .... Associate Professor of Library Science (1965)
B.A., M.A., Brigham Young University, 1950, 1952; M.S., University of Southern California, 1959.

Lynn E. Johnson .... Assistant Professor of Psychology; Graduation and Admissions Counselor (1961)
B.A., Brigham Young University, 1958; M.A., Ph.D., University of Utah, 1959, 1962.

Douglas E. Jones .... Assistant Professor of Physics (1964)
B.S., M.S., Ph.D., Brigham Young University, 1957, 1959, 1965.

J. Richard Jones .... Instructor in Physical Education for Men (1961)
B.S., M.S., Brigham Young University, 1951, 1955.

Jens J. Jonsson .... Professor of Electrical Engineering (1953)
B.S.G.E., B.S.E.E., University of Utah, 1944, 1947; M.S.E.E., Ph.D., Purdue University, 1948, 1951.

Clive D. Jorgensen .... Assistant Professor of Zoology (1963)
B.S., M.S., Brigham Young University, 1954, 1957; Ph.D., Oregon State University, 1964.

E. Clay Jorgensen .... Instructor in Psychology (1965)
B.A., M.A., Brigham Young University, 1962, 1963.

Eleanor Jorgensen .... Assistant Professor of Clothing and Textiles (1949)
B.S., Brigham Young University, 1946; M.S., Kansas State College, 1954; Ph.D., Texas Women's University, 1965.

John Z. Kartchner .... Special Instructor in Spanish (1964)
B.A., Brigham Young University, 1963.

Kenneth W. Karren .... Associate Professor of Civil Engineering (1965)
B.S., M.S., University of Utah, 1953, 1961; Ph.D., Cornell University, 1965.

Joseph J. Keeler .... Associate Professor of Music; University Organist (1935)
B.S., M.A., Brigham Young University, 1940, 1950.

Hans-Wilhelm Kelling .... Assistant Professor of German (1962)
B.A., Brigham Young University, 1958; M.A., Stanford University, 1960.

Burton C. Kelly .... Assistant Professor of Educational Psychology; Assistant Director of Counseling Service (1962)
B.S., Idaho State College, 1952; M.S., Brigham Young University, 1955.

C. Rodney Kimball .... Instructor in Physical Education and Health (1937)
B.S., M.S., Brigham Young University, 1955, 1963.

Edwin R. Kimball .... Professor of Physical Education (1935)
B.S., Brigham Young University, 1926; M.S., University of Southern California, 1935; Ed.D., University of Oregon, 1955.

Alma W. King .... Assistant Professor of Religion (1956)
B.S., M.S., Brigham Young University, 1930, 1936.

Hattie M. Knight .... Assistant Professor of Library Science (1941)
B.S., Brigham Young University, 1941; B.S., University of Denver, 1943; M.S., George Peabody College for Teachers, 1951.

Elmer M. Knowles .... Professor of Child Development and Family Relationships (1962)
B.S., M.S., Utah State University, 1949, 1950; Ph.D., Cornell University, 1952.

Carol L. Kohler .... Instructor in Housing and Home Management (1965)
B.S., Brigham Young University, 1959; M.S., Ohio State University, 1965.

Mary Frances Kraemer .... Instructor in Library Science (1965)
B.A., Roosevelt University, 1952; M.S., Drexel Institute of Technology, 1960.

William R. Lambert .... Instructor in Business Management (1962)
B.S., University of Utah, 1953; M.B.A., Harvard Graduate School, 1962.

Merle E. Lamson .... Instructor in Library Science (1961)
B.S., Brigham Young University, 1955; M.S., Columbia University, 1960.

Anthony J. LaPray .... Clinical Instructor in Special Education (1964)
B.S., M.S., Utah State University, 1959, 1962.

A. Dean Larsen .... Instructor in Library Science (1956)
B.S., Brigham Young University, 1954; M.A., University of Michigan, 1960.

Don H. Larsen .... Professor of Bacteriology (1952)
B.S., Brigham Young University, 1940; M.A., University of Nebraska, 1942; Ph.D., University of Utah, 1950.

Jean Larsen .... Instructor in Child Development and Family Relationships (1960)
B.S., M.S., Brigham Young University, 1953, 1960.

Kenneth M. Larsen .... Associate Professor of Mathematics (1960)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1956; Ph.D., University of California at Los Angeles, 1964.

Vernon W. Larsen .... Professor of Sociology (1952)
B.A., M.A., Brigham Young University, 1949, 1950; Ph.D., Cornell University, 1957.

Clinton F. Larson .... Professor of English (1947)
B.A., M.A., University of Utah, 1943, 1947; Ph.D., University of Denver, 1956.

Everett Gerald Larson .... Assistant Professor of Physics (1964)
B.S., M.S., Ph.D., Massachusetts Institute of Technology, 1957, 1959, 1964.

Gustive O. Larson .... Associate Professor of History of Religion (1954)
B.A., M.A., University of Utah, 1920, 1926.

Duane M. Laws .... Associate Professor of Child Development and Family Relationships (1963)
B.A., M.A., Brigham Young University, 1958, 1959; Ed.D., Teachers College at Columbia University, 1964.

W. Derby Laws .... Professor of Agronomy (1960)
B.A., Brigham Young University, 1939; M.S., Utah State University, 1941; Ph.D. Ohio State University, 1944.

Harold R. Laycock .... Associate Professor of Music (1949)
B.A., M.A., Brigham Young University, 1937, 1947; D.M.A., University of Southern California, 1960.

Ralph G. Laycock .... Associate Professor of Music (1953)
B.A., Brigham Young University, 1941; M.S., Juilliard School of Music, N.Y.C., 1948.

Robert L. Layton .... Associate Professor of Geography (1954)
B.S., M.S., University of Utah, 1951, 1952; Ph.D., University of Syracuse, 1962.

Evelyn M. Lee .... Assistant Professor of Clothing and Textiles (1962)
B.S., M.S., Montana State College, 1952, 1959.

Harold W. Lee .... Professor of French (1937)
B.A., M.A., Brigham Young University, 1938, 1940; Ph.D., Stanford University, 1946.

Tsai-feng Mazie Lee .... Special Instructor in Chinese (1965)
B.A., Tunghai University, Taiwan, 1960.

Stella Dixon Lewis .... Special Instructor in Housing and Home Management (1956)
B.S., Brigham Young University, 1938.

Elizabeth L. Liechty .... Assistant Professor of Clothing and Textiles (1952)
B.S., Utah State University, 1948; M.S., University of California at Los Angeles, 1954.

Charlene Lind .... Instructor in Clothing and Textiles (1964)
B.S., Utah State University, 1955; M.A., University of Maryland, 1961.

Earl L. Lindley .... Instructor in Physical Education (1961)
B.S., M.S., Utah State University, 1954, 1957.

Wesley P. Lloyd .... Professor of Education; Dean of Graduate School (1935)
B.S., M.S., Brigham Young University, 1927, 1934; Ph.D., University of Chicago, 1937.

Lester Long .... Special Instructor in Industrial Technology (1959)
B.S., Brigham Young University, 1958.

Ferril A. Losee .... Professor of Electrical Engineering (1965)
B.S., University of Utah, 1953; M.S., University of Southern California, 1957.

Gordon M. Low .... Professor of Speech (1964)
B.S., M.S., University of Utah, 1949, 1950; Ph.D., University of Minnesota, 1955.

Warren F. Luch .... Special Instructor in Art (1963)
Diploma, Philadelphia Museum College of Art, 1957; B.A., Brigham Young University, 1961.

Paul F. Luckau .... Instructor in German (1964)
B.A., M.A., University of Utah, 1949, 1955.

Daniel H. Ludlow .... Professor of Scripture (1955)
B.S., Utah State University, 1946; M.S., Indiana University, 1953; Ed.D., Columbia University, 1955.

Peter Lysenko .... Instructor in Russian (1963)
B.S., Brigham Young University, 1958; M.A., Indiana University, 1963.

LeRay L. McAllister .... Assistant Professor of Accounting (1963)
B.A., Brigham Young University, 1957; M.S., Arizona State University, 1960; C.P.A., Utah, 1962.

Ross "J" McArthur .... Professor of Industrial Arts (1956)
B.S., M.S., Utah State University, 1949, 1953; Ed.D., University of Missouri, 1955.

J. Glen McKellar .... Assistant Professor of English (1964)
B.A., M.A., Brigham Young University, 1960, 1962.

John E. McKendrick .... Assistant Professor of English (1953)
B.A., M.A., University of Utah, 1942, 1949.

Lynn A. McKinlay .... Assistant Professor of Communications (1955)
Certificate, Post Graduate Certificate, Pasadena Community Playhouse, College of Theatre Arts, 1936, 1937.

Max E. McKinnon .... Assistant Professor of Industrial Technology (1957)
B.S., M.S., Utah State University, 1949, 1954.

Maughan W. McMurdie .... Special Instructor in Music (1959)
B.S., Utah State University, 1954.

Delbert H. McNamara .... Professor of Physics (1955)
B.S., Ph.D., University of California (Berkeley), 1947, 1950.

C. Craig McNeil .... Instructor in English (1959)
B.S., M.A., Brigham Young University, 1955, 1960.

Melvin P. Mabey .... Associate Professor of History and Political Science (1955)
B.S., M.A., Brigham Young University, 1947, 1953; D. Phil., Oxford University (England), 1955.

Ruth M. MacKay .... Instructor in English (1962)
B.A., M.A., Brigham Young University, 1960, 1962.

Thomas W. Mackay .... Special Instructor in Classical Languages (1964)
B.A., Brigham Young University, 1963.

Harold S. Madsen .... Assistant Professor of English (1956)
B.A., M.A., University of Utah, 1953, 1960; Ph.D., University of Colorado, 1965.

Truman G. Madsen .... Professor of Philosophy (1957)
B.S., M.S., University of Utah, 1951, 1952; A.M., Ph.D., Harvard University, 1957, 1960.

Francis R. Magleby .... Assistant Professor of Art (1959)
B.S., M.S., Brigham Young University, 1950, 1951.

S/Sgt. L. Jay Maness .... Instructor in Aerospace Studies (1964)

Garth L. Mangum .... Associate Professor of Economics (1960)
B.S., Brigham Young University, 1956; M.P.A., Ph.D., Harvard University, 1958, 1960.

John H. Mangum .... Assistant Professor of Chemistry (1963)
B.S., M.S., Brigham Young University, 1957, 1959; Ph.D., University of Washington, 1963.

Robert P. Manookin .... Instructor in Library Science (1959)
B.A., Brigham Young University, 1955; M.Mus., University of Illinois, 1959.

H. Carleton Marlow .... Assistant Professor of History (1964)
B.S., M.S., Brigham Young University, 1958, 1959; Ph.D., University of Oklahoma, 1966.

James Mason .... Instructor in Music (1962)
B.A., M.A., Brigham Young University, 1955, 1957.

Ray T. Matheny .... Assistant Professor of Anthropology and Archaeology (1965)
B.A., M.A., Brigham Young University, 1960, 1962.

Conan E. Mathews .... Professor of Art; Dean of the College of Fine Arts and Communications (1956)
B.A., College of Idaho, 1936; M.F.A., University of Utah, 1950; California School of Fine Arts, Columbia University.

J. Keith Melville .... Associate Professor of Political Science (1957)
B.A., University of Utah, 1947; M.A., University of California, 1949; Ph.D., University of Utah, 1956.

Ella E. Merrill .... Assistant Professor of Nursing (1965)
Diploma, Thomas D. Dee Memorial Hospital, 1950; B.S., University of Utah, 1956; M.P.H., University of California, 1964.

Keith H. Meservy .... Instructor in Religious Instruction (1958)
B.A., Brigham Young University, 1951.

Charles L. Metten .... Associate Professor of Dramatic Arts (1962)
B.A., M.A., University of California at Los Angeles, 1951, 1952; Ph.D., State University of Iowa, 1960.

Elaine Michaelis .... Instructor in Physical Education for Women (1960)
B.S., M.S., Brigham Young University, 1960, 1962.

Louis C. Midgley .... Associate Professor of Political Science (1963)
B.S., M.S., University of Utah, 1954, 1957; Ph.D., Brown University, 1964.

Seymour Mikkelsen .... Instructor in Animal Science; Manager, Dairy Farm (1956)
B.S., Brigham Young University, 1948.

Gail P. Miles .... Instructor in Mathematics (1965)
B.S., M.S., Utah State University, 1963, 1965.

Elva K. Miller .... Clinical Instructor in Education (1955)
B.S., Brigham Young University, 1947.

Martin L. Miller .... Assistant Professor of Physics and Mathematics (1942)
B.A., M.A., Brigham Young University, 1942, 1950.

Floyd Millet .... Assistant Professor of Physical Education; Director of Athletics (1964)
B.A., Brigham Young University, 1934; M.S., University of Southern California, 1939.

Marion T. Millett .... Associate Professor of Geography (1958)
B.A., University of Southern California, 1954; M.A., University of Colorado, 1956; Ph.D. McGill University, Canada, 1965.

Gayle F. Miner .... Assistant Professor of Electrical Engineering (1960)
B.S., M.S., University of Utah, 1959, 1960.

Albert O. Mitchell .... Professor of Dramatic Arts (1956)
B.S., M.S., University of Utah, 1933, 1935; Ph.D., University of Wisconsin, 1938.

Olive Kimball B. Mitchell .... Associate Professor of English (1947)
B.A., University of Arizona, 1932; M.A., Brigham Young University, 1934.

Rudy Moe .... Instructor in Physical Education (1959)
B.A., Concordia College, Moorhead, Minnesota, 1953; M.S., Brigham Young University, 1962.

J. C. Moffitt .... Professor of Educational Administration (1953)
B.S., M.S., Brigham Young University, 1926, 1929; Ph.D., University of Chicago, 1940.

J. Weldon Moffitt .... Professor of Psychology (1963)
B.S., Brigham Young University, 1949; M.S., University of Utah, 1950; Ph.D., University of Illinois, 1953.

Darrel J. Monson ....Associate Professor of Electrical Engineering (1956)
B.S., University of Utah, 1943; M.S., University of California (Berkeley), 1952.

Diane Monson .... Assistant Professor of Political Science (1964)
B.A., Radcliffe College, 1958; M.A., Ph.D., New York University, 1959, 1963.

Harold K. Moon .... Assistant Professor of Spanish (1963)
B.A., M.A., Brigham Young University, 1957, 1959; Ph.D., Syracuse University, 1963.

Glen Moore .... Professor of Botany (1958)
B.S., Brigham Young University, 1949; Ph.D., University of Chicago, 1954.

Hal G. Moore .... Assistant Professor of Mathematics (1961)
B.S., M.S., University of Utah, 1952, 1957.

Alonzo J. Morley .... Professor of Speech (1928)
B.A., M.A., Brigham Young University, 1925, 1931; Ph.D., University of Iowa, 1935.

Edwin B. Morrell .... Associate Professor of Political Science (1961)
B.A., Brigham Young University, 1956; M.A., Ph.D., Harvard University, 1959, 1966.

Jeannette Morrell .... Assistant Professor of English (1956)
B.A., M.A., University of Utah, 1933, 1935.

A. Reed Morrill .... Professor of Educational Administration (1948)
B.S., M.S., Brigham Young University, 1928, 1937; Ed.D., University of Oregon, 1948.

Reed S. Morrill .... Counselor in Counseling Service; Instructor in Psychology (1964)
B.A., Brigham Young University, 1956; M.S., University of Utah, 1964.

Lawrence Morris .... Professor of Animal Science (1952)
B.S.A., University of Arizona, 1925; M.S., Texas A. & M., 1928; Ph.D., Louisiana State University, 1938.

Linnea S. Morrison .... Assistant Professor of Nursing; Acting Dean of the College of Nursing (1961)
B.S., Gustavus Adolphus, 1956; M.A., M.Ed., Teachers College, Columbia University, 1957, 1963.

Darrell L. Moses .... Associate Professor of Educational Psychology (1959)
B.A., M.A., University of Utah, 1952, 1953; Ph.D., University of Southern California, 1960.

J. Joel Moss .... Professor of Child Development and Family Relationships (1961)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., University of North Carolina, 1954.

J. Richard Murdock .... Associate Professor of Botany (1952)
B.S., M.S., Brigham Young University, 1949, 1951; Ph.D., Washington State University, 1956.

Joseph R. Murphy .... Associate Professor of Zoology (1960)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Nebraska, 1957.

Merlin G. Myers .... Associate Professor of Anthropology and Archaeology (1963)
B.A., Brigham Young University, 1951; Ph.D., University of Cambridge, 1963.

Keith L. Naegle .... Special Instructor in Industrial Technology (1961)
B.S., Utah State University, 1954.

Beverley Nalder .... Counselor in Counseling Service (1965)
B.S., Brigham Young University, 1952; M.S., University of Utah, 1965.

Clyde R. Naylor .... Instructor in Civil Engineering (1964)
B.E.S., M.S., Brigham Young University, 1960, 1962.

Jay H. Naylor .... Instructor in Recreation Education (1961)
B.S., M.S., Brigham Young University, 1958, 1959.

Neils P. Neilson .... Professor of Physical Education (1964)
B.S., Utah State University, 1919; M.A., Ph.D., University of California (Berkeley), 1922, 1936.

Donald K. Nelson .... Assistant Professor of Library Science; Acting Director of the Library (1961)
B.S., Utah State University, 1938; M.B.A., University of Denver, 1949.

Glen T. Nelson .... Professor of Economics (1954)
B.S., M.S., Utah State University, 1942, 1948; Ph.D., University of Illinois, 1950.

H. Mark Nelson .... Associate Professor of Physics (1959)
B.S., M.S., Brigham Young University, 1953, 1954; Ph.D., Harvard University, 1959.

K. LeRoi Nelson .... Professor of Chemistry (1956)
B.S., Utah State University, 1948; Ph.D., Purdue University, 1952.

Marvin N. Nelson .... Clinical Instructor in Elementary Education (1959)
B.S., M.S., Brigham Young University, 1951, 1961.

Hugh W. Nibley .... Professor of History and Religion (1946)
B.A., University of California at Los Angeles, 1934; Ph.D., University of California, 1938.

Henry J. Nicholes .... Professor of Zoology and Entomology (1946)
B.A., Brigham Young University, 1935; M.S., Ph.D., University of Wisconsin, 1939, 1941.

T/Sgt. Afton Nickell .... Special Instructor in Aerospace Studies (1960)

Fred K. Nielsen .... Instructor in Religious Instruction (1956)
B.A., M.A., Harvard University, 1954, 1955.

Lorna R. Nielsen .... Instructor in English (1961)
B.A., M.A., Brigham Young University, 1956, 1962.

Eve Nielson .... Instructor in Library Science (1949)
B.S., Utah State University, 1945; M.S., University of Southern California, 1959.

Howard C. Nielson .... Professor of Statistics (1957)
B.S., University of Utah, 1947; M.S., University of Oregon, 1949; M.B.A., Ph.D., Stanford University, 1956, 1957.

John D. Nixon .... Instructor in Library Science (1961)
B.S., Brigham Young University, 1957; M.A., University of Denver, 1961.

Quentin R. Nordgren .... Associate Professor of Music (1955)
B.A., M.A., Brigham Young University, 1942, 1950; Ph.D., Indiana University, 1955.

James A. North .... Assistant Professor of Bacteriology (1965)
B.S., M.S., Brigham Young University, 1958, 1960; Ph.D., University of Utah, 1964.

Keith R. Oakes .... Professor of Educational Administration; Director of Summer School (1957)
B.S., M.S., Utah State University, 1940, 1948; Ed.D., University of Southern California, 1954.

Carol Oaks .... Instructor in Library Science (1962)
B.A., Brigham Young University, 1943; M.A., University of Chicago, 1946.

Clinton L. Oaks .... Professor of Business Management (1957)
B.A., Brigham Young University, 1948; M.B.A., Ph.D., Stanford University, 1950, 1955.

Robert T. Oliphant .... Special Instructor in Physical Education (1963)
B.S., Brigham Young University, 1962.

J. Lloyd Olpin .... Associate Professor of Mathematics (1955)
B.S., Brigham Young University, 1925; M.S., Colorado University, 1938.

Burton K. Olsen .... Instructor in Recreation Education (1965)
B.S., M.S., Brigham Young University, 1963, 1964.

Ernest L. Olson .... Assistant Professor of English; Director of University Publications (1953)
B.A., M.A., University of Utah, 1948, 1949.

Beth Openshaw .... Special Instructor in Nursing (1965)
Diploma, L.D.S. Hospital, 1947.

John E. Ord .... Associate Professor of Elementary Education (1957)
B.S., Utah State University, 1940; M.S., University of Utah, 1949; Ed.D., Stanford University, 1958.

Scott G. Orrock .... Instructor in Child Development and Family Relationships; Counselor in Counseling Service (1953)
B.A., M.A., Brigham Young University, 1952, 1953.

Bryce B. Orton .... Professor of Accounting (1961)
B.S., Brigham Young University, 1951; M.B.A., University of Oregon, 1957; D.B.A. University of Washington, 1962.

J. Bevan Ott .... Associate Professor of Chemistry (1960)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of California, 1959.

Glen F. Ovard .... Professor of Educational Administration (1958)
B.S., M.S., Brigham Young University, 1949, 1954; Ed.D., Stanford University, 1958.

Ronald T. Pace .... Instructor in Animal Science (1961)
B.S., M.S., Brigham Young University, 1955, 1958.

Thane J. Packer .... Associate Professor of Youth Leadership (1959)
B.S., Utah State University, 1939; M.S., Brigham Young University, 1963.

Glen O. Palmer .... Instructor in Accounting (1964)
B.S., M.Acc., Brigham Young University, 1961, 1963; C.P.A., State of New Mexico, 1963.

Spencer J. Palmer .... Associate Professor of History of Religious Instruction (1962)
B.A., Brigham Young University, 1952; M.A., Ph.D., University of California (Berkeley), 1959, 1964.

Boyd L. Park .... Assistant Professor of Accounting (1963)
B.S., Brigham Young University, 1954; LL.B., University of Utah, 1957.

Robert Lynn Park .... Assistant Professor of Animal Science (1965)
B.S., Brigham Young University, 1956; M.S., Ph.D., Cornell University, 1958, 1962.

Karen F. Parker .... Instructor in English (1961)
B.S., M.A., Brigham Young University, 1956, 1962.

Robert E. Parsons .... Assistant Professor of Religious Instruction (1964)
B.S., M.S., Brigham Young University, 1954, 1957.

Robert J. Parsons .... Instructor in Economics (1965)
B.S., M.S., Brigham Young University, 1964, 1966.

Robert C. Patch .... Associate Professor of Scripture (1959)
B.A., University of New Mexico, 1945; M.Th., Ph.D., Brigham Young University, 1949, 1964.

Edward G. Paul .... Assistant Professor of Chemistry (1964)
B.S., Ph.D., University of Utah, 1958, 1962.

I. Reed Payne .... Student Counselor and Assistant Professor of Psychology (1964)
B.S., Brigham Young University, 1956; M.S., Ph.D., Pennsylvania State University, 1958, 1963.

John David Payne .... Instructor in Physical Education for Men; Assistant Football Coach (1966)
B.S., Oklahoma State University, 1956.

John W. Payne .... Associate Professor of Sociology (1947)
B.A., M.A., Brigham Young University, 1936, 1948.

Wayne E. Pearce .... Instructor of Business Management; Tennis Coach (1963)
B.S., M.B.A., University of Utah, 1960, 1961.

Glenn L. Pearson .... Associate Professor of Scripture (1951)
B.S., Utah State University, 1949; M.A., Brigham Young University, 1951.

M/Sgt. Richard A. Pearson .... Instructor in Aerospace Studies (1964)

Darhl M. Pedersen .... Associate Professor of Psychology (1962)
B.S., M.S., Brigham Young University, 1957, 1958; Ph.D., University of Illinois, 1962.

Devern J. Perry .... Instructor in Business Education (1963)
B.S., M.S., Brigham Young University, 1958, 1962.

Melvin J. Petersen .... Assistant Professor of Religious Education (1964)
B.S., M.S., Ed.D., Brigham Young University, 1948, 1955, 1964.

Clarence P. Peterson .... Instructor in Mathematics (1965)
B.S., M.S., Utah State University, 1960, 1962.

Dean A. Peterson .... Professor of Business Education (1942)
B.S., Brigham Young University, 1938; M.S., Ed.D., University of Southern California, 1942, 1959.

Evan T. Peterson .... Associate Professor of Sociology (1959)
B.S., M.S., Brigham Young University, 1952, 1953; Ph.D., University of Michigan, 1959.

H. Donl Peterson .... Assistant Professor of Religious Education (1964)
B.S., M.Ed., Brigham Young University, 1954, 1960; Ed.D., Washington State University, 1965.

John M. Peterson .... Assistant Professor of Mathematics (1965)
B.S., M.S., Ed.D., Utah State University, 1961, 1964, 1965.

Boyd G. Pett .... Assistant Professor of Engineering Technology (1961)
B.S., M.S., Utah State University, 1954, 1961.

William Revell Phillips .... Professor of Geology (1957)
B.S., M.S., Ph.D., University of Utah, 1950, 1951, 1954.

Rex D. Pinegar .... Assistant Professor of Special Education (1965)
B.S., Brigham Young University, 1958; M.A., San Francisco State College, 1962.

Nancy Jean Plusquellic .... Clinical Instructor in Nursing (1965)
B.S., Alderson-Broaddus College, 1963.

Richard D. Poll .... Professor of History and Political Science (1948)
B.A., M.A., Texas Christian University, 1938, 1939; Ph.D., University of California (Berkeley), 1948.

Paul C. Pollei .... Instructor in Music (1963)
B.M., University of Utah, 1961; M.M., University of Rochester, 1962.

J. Perry Polson .... Associate Professor of Business Education (1952)
B.S., M.S., University of Utah, 1947, 1952; Ed.D., University of Southern California, 1961.

Bill J. Pope .... Professor of Chemical Engineering (1958)
B.S., University of Utah, 1947; M.S., Ph.D., University of Washington, 1948, 1959.

Blaine R. Porter .... Professor of Child Development and Family Relationships (1955)
B.S., M.A., Brigham Young University, 1947, 1949; Ph.D., Cornell University, 1952.

Norma Potter .... Assistant Professor of Nursing (1953)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1931; B.S., University of Utah, 1950; M.N., University of Washington, 1961.

Jenniev J. Poulson .... Assistant Professor of Housing and Home Management (1963)
B.S., Brigham Young University, 1933; M.S., Ph.D., Iowa State University, 1954, 1964.

Virginia B. Poulson .... Assistant Professor of Homemaking Education (1950)
B.S., Brigham Young University, 1931; M.Ed., Colorado A. & M., 1955.

Della D. Provost .... Clinical Instructor in Elementary Education (1964)
B.S., University of Utah, 1957.

Eldon H. Puckett .... Instructor in Teacher Education (1965)
B.A., Brigham Young University, 1949.

Victor W. Purdy .... Assistant Professor of Library Science (1954)
B.S., Brigham Young University, 1952; M.S., Columbia University, 1957.

Ellis T. Rasmussen .... Assistant Professor of Religious Instruction (1951)
B.S., M.A., Brigham Young University, 1942, 1951.

Lynn A. Ravsten .... Counselor in Counseling Service; Instructor in Psychology (1957)
B.S., Utah State University, 1953; M.A., Stanford University, 1956.

Susan E. Ream .... Instructor in English (1961)
B.A., Brigham Young University, 1953; M.A., Columbia Teachers College, 1958.

Jesse W. Reeder .... Professor of History and Political Science (1952)
B.S., M.S., Utah State University, 1934, 1937; Ph.D., Cornell University, 1952.

Captain Martin G. Reeder .... Assistant Professor of Aerospace Studies (1964)
B.S., Utah State University, 1954.

Howard T. Reid .... Professor of Personnel and Guidance (1953)
B.A., Brigham Young University, 1940; M.S., Ed.D., University of Southern California, 1947, 1949.

Ernest F. Reimschüssel .... Associate Professor of Horticulture (1942)
B.A., M.S., Brigham Young University, 1940, 1951.

Alvin C. Rencher .... Instructor in Mathematics (1963)
B.S., M.A., Brigham Young University, 1959, 1962.

Ronald L. Rhodes .... Instructor in Health Education (1962)
B.S., Elmhurst College, 1957; M.S., Brigham Young University, 1962.

Owen S. Rich .... Professor of Communications (1950)
B.S., Brigham Young University, 1950; M.A., University of Southern California, 1953; Ed.D., Pennsylvania State University, 1963.

Russell R. Rich .... Professor of History of Religion (1953)
B.S., Utah State University, 1936; M.A., Brigham Young University, 1949; Ed.D., University of Wyoming, 1955.

Dale O. Richards .... Associate Professor of Statistics (1963)
B.S., Utah State University, 1950; M.S., Ph.D., Iowa State University, 1957, 1963.

J. Morris Richards .... Assistant Professor of Communications (1965)
B.A., Arizona State College, 1929; M.A., University of Arizona, 1937.

Jed J. Richardson .... Assistant Professor of Speech (1955)
B.S., M.S., Utah State University, 1950, 1955.

Dean Rickenbach .... Associate Professor of Business Management (1963)
B.S., Brigham Young University, 1954; M.S., Stanford University, 1957; Ph.D., Indiana University, 1963.

Eldin Ricks .... Assistant Professor of Religious Instruction (1949)
B.S., Brigham Young University, 1941; M.A., University of Southern California, 1949.

Chauncey C. Riddle .... Professor of Philosophy (1952)
B.S., Brigham Young University, 1947; M.A., Columbia University, 1951; Ph.D., Columbia University, 1958.

Ted E. Ridenhour .... Instructor in English (1959)
B.A., M.A., Brigham Young University, 1957, 1960.

J. Keith Rigby .... Professor of Geology (1953)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., Columbia University, 1952.

Burton W. Robinson .... Professor of Clinical Psychology (1955)
B.S., M.S., Utah State University, 1951; Ph.D., Purdue University, 1954.

Donald W. Robinson .... Professor of Mathematics (1956)
B.S., M.A., University of Utah, 1948, 1952; Ph.D., Case Institute of Technology, 1956.

Clarence F. Robison .... Assistant Professor of Physical and Health Education; Head Track Coach (1948)
B.S., Brigham Young University, 1949; M.S., University of Michigan, 1954.

R. Max Rogers .... Professor of German (1945)
B.A., M.A., Brigham Young University, 1940, 1942; Ph.D., Stanford University, 1951.

Norma Rohde .... Assistant Professor of Educational Psychology; Counselor in Counseling Service (1965)
B.A., University of Utah, 1949; M.A., Columbia University, 1958; Ed.D., Brigham Young University, 1965.

Boyd C. Rollins .... Associate Professor of Child Development and Family Relationships (1963)
B.S., Utah State University, 1953; M.S., Brigham Young University, 1958; Ph.D., Cornell University, 1961.

Leslie McKay Rollins .... Instructor in Health Education (1962)
B.S., M.S., Brigham Young University, 1961, 1962.

Ralph L. Rollins .... Professor of Civil Engineering (1956)
B.S., M.S., Utah State University, 1941, 1949; Ph.D., Iowa State College, 1954.

Antone K. Romney .... Professor of Education; Dean of the College of Education (1945)
B.S., M.S., Brigham Young University, 1933, 1934; Ed.D., Stanford University, 1947.

Harold E. Rosen .... Assistant Professor of Spanish (1963)
B.A., M.A., Brigham Young University, 1954, 1959.

Elmo S. Roundy .... Assistant Professor of Physical Education (1963)
B.S., M.Ed., Brigham Young University, 1953, 1956; Ed.D., University of California at Los Angeles, 1965.

Richard D. Sagers .... Professor of Bacteriology (1958)
B.S., M.S., Brigham Young University, 1954, 1955; Ph.D., University of Illinois, 1958.

Richard D. Salazar .... Instructor in Health Education (1963)
B.S., M.S., Brigham Young University, 1958, 1962.

Clyde D. Sandgren .... Vice-President and General Counsel; Professor of Political Science (1954)
B.S., Brigham Young University, 1937; LL.B., St. John's University, 1939.

Lawrence W. Sardoni .... Professor of Music (1945)
B.A., M.A., Brigham Young University, 1935, 1946.

Alice M. Schmidt .... Assistant Professor of Nursing (1965)
B.S., State University of Iowa, 1947; M.S., Brigham Young University, 1964.

Donald T. Schmidt .... Instructor in Library Science (1959)
B.A., M.A., State University of Iowa, 1947, 1949; M.A., University of Denver, 1964.

Duane R. Schow .... Special Instructor in Industrial Technology (1965)
B.S., Utah State University, 1963.

Gloria R. Seamons .... Instructor in Physical Education for Women (1961)
B.S., University of Utah, 1961; M.S., Brigham Young University, 1964.

Sterling D. Sessions .... Associate Professor of Business Management (1961)
B.A., Brigham Young University, 1949; M.A., New York University, 1950; D.B.A., Harvard University, 1962.

Lt. Col. Paul H. Sharp .... Assistant Professor of Aerospace Studies (1963)
B.S., Utah State University, 1949.

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B.A., M.S., Brigham Young University, 1957, 1961; Ed.D., Oregon State University, 1965.

Lyman S. Shreeve, Sr. .... Assistant Professor of Spanish (1965)
B.A., M.A., Brigham Young University, 1949, 1950.

R. Phil Shumway .... Professor of Animal Science (1949)
B.S., Utah State University, 1947; M.S., University of Minnesota, 1949; Ph.D., Utah State University, 1959.

Elbert R. Simmons .... Assistant Professor of Zoology and Entomology (1956)
B.S., Utah State University, 1941; M.A., State University of Iowa, 1943.

John M. Simonsen .... Professor of Mechanical Engineering (1954)
B.S.M.E., University of Utah, 1950; M.S.M.E., Ph.D., Purdue University, 1952, 1955.

Ralph V. Skarda, Jr. .... Assistant Professor of Mathematics (1965)
B.A., Pomona College, 1961; M.S., Ph.D., California Institute of Technology, 1964, 1965.

Karl M. Skousen .... Professor of Accounting (1958)
B.S., M.S., Brigham Young University, 1944, 1957; C.P.A., Utah, 1957; Ph.D., Michigan State University, 1962.

J. Keith Slade .... Assistant Professor of French (1963)
B.A., University of Arizona, 1959; M.A., Brigham Young University, 1960.

Arthur D. Slater .... Assistant Professor of Personnel and Guidance (1956)
B.S., Brigham Young University, 1948; M.S., Tulane University, 1950.

Robert H. Slover .... Associate Professor of Political Science (1965)
B.A., University of Oklahoma, 1935; M.A., Ph.D., Harvard University, 1948, 1950.

Lyman F. Smart .... Assistant Professor of English (1953)
B.A., Idaho State College, 1950; M.A., University of New Mexico, 1952.

Carol T. Smith .... Instructor in Library Science (1949)
B.A., Brigham Young University, 1940; M.S., University of Southern California, 1962.

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B.A., M.A., Colorado State College, 1958, 1959.

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B.A., University of Utah, 1956; M.A., University of Southern California, 1961.

Oliver R. Smith .... Professor of Communications (1938)
B.A., Brigham Young University, 1938; Ph.D., State University of Iowa, 1951.

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B.S., Brigham Young University, 1943; M.A., University of Southern California, 1947; Ed.D., Brigham Young University, 1962.

Robert J. Smith .... Professor of Accounting (1949)
B.S., Brigham Young University, 1948; M.B.A., Northwestern University, 1949; C.P.A., Illinois, 1949; C.P.A., Utah, 1950; D.B.A., Indiana University, 1957.

Wilford E. Smith .... Professor of Sociology (1948)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948, Ph.D., University of Washington, 1952.

Rulon N. Smithson .... Assistant Professor of French (1955)
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Karl N. Snow .... Assistant Professor of Political Science (1962)
B.S., Brigham Young University, 1956; M.A., University of Minnesota, 1958; M.P.A., University of Southern California, 1964.

Richard L. Snow .... Professor of Chemistry (1957)
B.S., Ph.D., University of Utah, 1953, 1957.

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Certificate of Maturity, Wilhelms-Oberschule, Germany; State Diploma, Interpreter institute, Germany; M.A., University of Utah, 1960; Ph.D., University of Kansas, 1963.

George Albert Spencer .... Instructor in Electrical Technology (1958)
B.S., University of Utah, 1939.

Sidney B. Sperry .... Professor of Old Testament Languages and Literature (1932)
B.A., University of Utah, 1917; M.A., Ph.D., University of Chicago, 1926, 1931.

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Diploma, Johns Hopkins Hospital, Baltimore, Maryland, 1947; B.S., University of Utah, 1957.

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B.S., M.A., Brigham Young University, 1953, 1955.

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B.S., Brigham Young University, 1925; M.A., Columbia University, 1940.

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B.Mus., Eastman School of Music, 1949; M.Mus., Indiana University, 1952.

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B.S., Brigham Young University, 1934; M.B.A., Harvard Graduate School of Business Administration, 1937; Ph.D., Graduate School of Business Administration, New York University, 1955.

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L. Elliott Tuttle .... Assistant Professor of Geography (1936)
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Howard B. Vanfleet .... Associate Professor of Physics (1960)
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Josie S. Vincent .... Special Instructor in Housing and Home Management (1956)
B.S., Utah State University, 1939.

Elizabeth Wahlquist .... Instructor in English (1962)
B.A., Brigham Young University, 1955; M.A., Middlebury College, 1962.

J. Homer Wakefield .... Assistant Professor of Music (1949)
B.S., M.S., M.A., Brigham Young University, 1924, 1933, 1950.

Rudger H. Walker .... Professor of Agronomy; Dean of the College of Biological and Agricultural Sciences (1960)
B.S., Brigham Young University, 1923; M.S., Ph.D., Iowa State University, 1925, 1927.

Lulu Wallace .... Instructor in Physical Education (1956)
B.S., Utah State University, 1954; M.S., Washington State University, 1960.

Max V. Wallentine .... Associate Professor of Animal Science (1962)
B.S., Utah State University, 1955; M.S., Ph.D., Cornell University, 1956, 1960.

Floyd LeRoy Walser .... Special Instructor in Spanish (1964)
B.A., Brigham Young University, 1962.

David M. Ward .... Assistant Professor of Electrical Engineering (1964)
B.S., Stanford University, 1959.

Beverly J. Warner .... Special Instructor in Dramatic Arts (1963)
B.A., Chico State College, 1961.

S. ElVon Warner .... Instructor in Business Education (1961)
B.S., M.S., Brigham Young University, 1960.

Ted J. Warner .... Assistant Professor of History (1962)
B.S., M.S., Brigham Young University, 1955, 1958; Ph.D., University of New Mexico, 1964.

Max L. Waters .... Associate Professor of Business Education (1958)
B.A., M.Ed., Brigham Young University, 1958, 1960; Ed.D., Colorado State College, 1963.

Jean Anne Waterstradt .... Assistant Professor of English (1945)
B.A., Brigham Young University, 1945; M.A., University of Southern California, 1955.

Arthur R. Watkins .... Professor of German (1952)
B.A., M.A., Brigham Young University, 1941, 1942; Ph.D., Stanford University, 1948.

Ray Watters .... Professor of Health Education (1957)
B.S., M.S., Utah State University, 1948, 1950; H.S.D., Indiana University, 1960.

Paul J. Watts, Jr. .... Assistant Professor of Electrical Engineering (1963)
B.E.S., Brigham Young University, 1960.

Stanley H. Watts .... Associate Professor of Physical Education; Head Basketball Coach (1947)
B.S., Brigham Young University, 1938.

Max D. Weaver .... Associate Professor of Art (1961)
B.S., M.A., Utah State University, 1939, 1955.

Ross M. Weaver .... Assistant Professor of Speech (1959)
B.S., M.S., Utah State University, 1950, 1951.

Kurt Weinzinger .... Assistant Professor of Music (1956)
Music Diplomas, Academy of Music and Arts, Vienna, Austria, 1951, 1953.

Stanley L. Welsh .... Associate Professor of Botany (1960)
B.S., M.S., Brigham Young University, 1951, 1957; Ph.D., Iowa State University, 1960.

Willes L. Werner .... Assistant Professor of Mathematics (1964)
B.A., University of California at Los Angeles, 1957; M.A., University of Utah, 1962.

Dale H. West .... Professor of English (1947)
B.A., Brigham Young University, 1940; M.A., University of Southern California, 1955; Ed.D., University of Colorado, 1962.

Farrin W. West .... Assistant Professor of Mechanical Engineering (1964)
B.E.S., M.S.M.E., Brigham Young University, 1962, 1963.

Carol B. Wheeler .... Instructor in Nursing (1962)
B.S., Brigham Young University, 1956.

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B.A., M.A., Brigham Young University, 1932, 1934.

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Fred G. White .... Associate Professor of Chemistry (1961)
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Charles W. Whitman .... Assistant Professor of Dramatic Arts (1965)
B.A., M.A., Brigham Young University, 1957, 1958.

Leslie Whitton .... Assistant Professor of Botany (1962)
B.S., Utah State University, 1949; M.S., University of California (Davis), 1953; Ph.D., Cornell University, 1964.

Harry E. Wickes .... Assistant Professor of Mathematics (1957)
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Marjorie Wight .... Instructor in English (1963)
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Theodore A. Wight .... Instructor in Mathematics (1963)
B.S., M.S., University of Utah, 1955, 1963.

Ray T. Wilcox .... Assistant Professor of Secondary Education (1957)
B.S., M.Ed., Brigham Young University, 1951, 1954; Ed.D., University of California (Berkeley), 1957.

Doran F. Wilkes .... Assistant Professor of Civil Engineering (1958)
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Ernest J. Wilkins .... Professor of Spanish; Director of the Language Training Mission (1953)
B.A., Brigham Young University, 1947; M.A., Ph.D., Stanford University, 1949, 1954.

Ernest L. Wilkinson .... University President (1951)
B.A., Brigham Young University, 1921; LL.B., George Washington University, 1926; S.J.D., Harvard University, 1927; hon. LL.D., Brigham Young University, 1957.

Milton G. Wille .... Associate Professor of Mechanical Engineering (1964)
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Carwin C. Williams .... Assistant Professor of Political Science (1964)
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B.A., Brigham Young University, 1953; M.M., D.M.A., Eastman School of Music, 1954, 1961.

Tess M. Williams .... Assistant Professor of Communications (1960)
B.S., Oregon State College, 1951; M.S., Iowa State College, 1956.

Arnold Wilson .... Assistant Professor of Civil Engineering (1957)
B.S., M.S., Brigham Young University, 1957, 1963.

Byron Joy Wilson .... Assistant Professor of Chemistry (1965)
B.S., Idaho State College, 1955; M.A., Southern Illinois University, 1958; Ph.D., University of Washington, 1961.

Marguerite I. Wilson .... Associate Professor of Special Education (1956)
B.S., University of Utah, 1948; M.A., San Francisco State College, 1955; Ed.D., George Peabody College for Teachers, 1965.

Warren B. Wilson .... Associate Professor of Art and Education (1954)
B.S., Utah State University, 1943; M.F.A., State University of Iowa, 1949.

William A. Wilson .... Instructor in English (1960)
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Larry T. Wimmer .... Assistant Professor of Economics (1963)
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B.S., M.S., Brigham Young University, 1926, 1934.

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Alan R. Witbeck .... Instructor in Physical Education (1955)
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Robert H. Wittorf .... Instructor in Library Science (1964)
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Heber G. Wolsey .... Assistant Professor of Communications (1963)
B.S., Brigham Young University, 1942; M.A., Northwestern University, 1949.

Glena D. Wood .... Associate Professor of English (1952)
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Stephen L. Wood .... Associate Professor of Zoology and Entomology (1956)
B.S., M.S., Utah State University, 1946, 1948; Ph.D., University of Kansas, 1953.

Thomas L. Wood .... Special Instructor in English (1964)
B.A., University of Alberta, 1963.

Lael J. Woodbury .... Professor of Dramatic Arts (1965)
B.S., Utah State University, 1952; M.A., Brigham Young University, 1953; Ph.D., University of Illinois, 1954.

Richard C. Woodbury .... Associate Professor of Electrical Engineering (1959)
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Leon W. Woodfield .... Assistant Professor of Accounting (1960)
B.S., M.B.A., University of Utah, 1956, 1957; C.P.A., California, 1959, Utah, 1960; D.B.A., Michigan State University, 1965.

Ralph Woodward .... Professor of Music (1955)
B.S., University of Idaho, 1940; M.M., Cincinnati Conservatory of Music, 1948; D.M.A., University of Illinois, 1964.

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B.S., Brigham Young University, 1951.

Norman Edgar Wright .... Instructor in Genealogical Research Technology (1964)
B.S., Brigham Young University, 1956; M.S., Utah State University, 1958.

David H. Yarn, Jr. .... Professor of Philosophy (1950)
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Paul H. Yearout .... Associate Professor of Mathematics (1962)
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B.S., State Teacher's College, Panzer School of Montclair, 1953.

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Karl E. Young .... Professor of English (1930)
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Janice Lynne Baxter, B.S., Special Instructor in Food and Nutrition
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Adine Bradley, Special Instructor in Music
Rulon Brough, Special Instructor in Machine Accounting
Keith P. Burnham, B.S., Special Instructor in Psychology
Theodore Burton, Special Professor of Religious Instruction
Merrill Bushnell, M.B.A., Special Instructor in Industrial Management
Richard A. Call, M.D., Special Instructor in Bacteriology
J. H. Carlquist, M.D., Special Instructor in Bacteriology
Lee Russon Chugg, Special Instructor in Bacteriology
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George W. Fitzroy, Special Instructor in Piano
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Joseph Kliass, Guest Resident Pianist
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B.S., M.S., Brigham Young University, 1957, 1961.

Lorna Millard .... Home Economics (1964)
B.S., Brigham Young University, 1960.

Wallace Montague .... Religion (1961)
B.S., Brigham Young University, 1949.

V. C. Osborne .... English (1964)
B.A., Brigham Young University, 1950.

Donald M. Peck, Jr. .... Mathematics (1962)
B.S., University of Utah, 1958.

R. Gary Penrod .... Social Studies (1962)
B.A., Brigham Young University, 1959.

Donna Lee Turley .... Counselor (1959)
B.S., Brigham Young University, 1953.

Fredrick N. Webb .... Vocal Music (1948)
B.A., M.A., Brigham Young University, 1933, 1954.

Harold O. Williams .... English, Journalism (1964)
B.A., M.A., Brigham Young University, 1951, 1960.

Richard R. Wootton .... Counselor (1963)
B.S., M.S., Brigham Young University, 1956, 1961.

Louise Young .... English (1964)
B.S., University of Utah, 1926.

ENROLLMENT SUMMARY 1963-64
PROVO, UTAH
AS OF AUGUST 21, 1964

College	Freshman	Sophomore	Junior	Senior	5th-Year Professional	Graduate	Men	Women	Total
Biological and Agricultural Sciences	458	320	244	190			973	239	1212
Business	445	378	402	334			1201	358	1559
Education	656	498	544	524			485	1737	2222
Family Living	411	273	282	245			15	1196	1211
Fine Arts and Communications	412	230	231	182			431	624	1055
General College	2441	983	413	177			2243	1771	4014
Humanities and Social Sciences	722	624	608	635			1369	1220	2589
Nursing	35	88	55	38			2	214	216
Physical and Engineering Sciences	660	416	328	244	81		1625	104	1729
Physical Education	126	96	114	126			259	203	462
Graduate School						2455	1674	781	2455
Total Daytime College Students on Campus	6366	3906	3221	2695	81	2455	10277	8447	18724**
Evening College Students on Campus							893	1039	1932
Net Cumulative Total College Level							11170	9486	20656
B.Y.U. Laboratory Schools									
Elementary School							99	95	194
Junior High School							105	93	198
Senior High School							106	97	203
Total, B.Y.U. Laboratory Schools							310	285	595
TOTAL STUDENTS ON B.Y.U. CAMPUS							11480	9771	21251*

*Complete for the school year 1963-64, including Summer School 1964.

**Total enrollment for Fall and Spring Semesters only was 16462. Total Summer School enrollment was 5132, of whom 2262 attended Summer School only.

NOTE: There are no duplications in this table.

BRIGHAM YOUNG UNIVERSITY 1963-64 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS, PROVO CAMPUS, ACCORDING TO STATES AND FOREIGN AREAS AS OF AUGUST 21, 1964

New England States

Maine	13
New Hampshire	25
Vermont	1
Massachusetts	41
Rhode Island	4
Connecticut	32
	116

Middle Atlantic States

New York	157
New Jersey	70
Pennsylvania	78
	305

East North Central

Ohio	84
Indiana	55
Illinois	135
Michigan	90
Wisconsin	41
	405

West North Central

Minnesota	29
Iowa	40
Missouri	61
North Dakota	12
South Dakota	23
Nebraska	34
Kansas	47
	246

South Atlantic States

Delaware	7
Maryland	52
Virginia	151
Washington, D.C.	19
West Virginia	6
North Carolina	54
South Carolina	34
Georgia	40
Florida	115
	478

East South Central

Kentucky	16
Tennessee	22
Alabama	19
Mississippi	26
	83

West South Central

Arkansas	14
Louisiana	21
Oklahoma	27
Texas	192
	254

Mountain States

Montana	185
Idaho	1812
Wyoming	284
Colorado	312
New Mexico	206
Arizona	744
Utah	7020
Nevada	418
	10981

Pacific Coast States

Alaska	34
Hawaii	113
Washington	582
Oregon	554
California	3637
	4920

Dominion of Canada

Alberta	350
British Columbia	21
Manitoba	6
Maritime Prov.	..
Ontario	45
Quebec	7
Saskatchewan	13
	442

Eastern South America

Argentina	7
Brazil	10
Paraguay	1
Uruguay	6
	24

Western South America and Andean Countries

Chile	3
Peru	10
Bolivia	1
	14

Central America and Mexico

Canal Zone	3
Costa Rica	1
Guatemala	4
Honduras	4
Puerto Rico	1
Mexico	49
	62

Northern Europe

Denmark	1
Finland	7
Norway	6
Sweden	3
	17

British Isles

England	18
Scotland	3
	21

Western Europe

Belgium	1
France	6
Netherlands	1
Switzerland	5
	13

Southern Europe

Greece	3
	3

East Central Europe

Germany (East, West)	9
Hungary	..
	9

Eastern Mediterranean

Iran	54
Iraq	1
Israel	..
Jordan	2
Lebanon	4
Turkey	..
Egypt	..
Afghanistan	1
	62

Arabian Peninsula

Saudi Arabia	6
	6

Southern Asia	
India	7
Pakistan	5
	12

Southeast Asia	
Thailand	3
	3

Indonesia	
Indonesia	..
Java	..
Vietnam	..

Far East	
Hong Kong	44
Japan	23
Nationalist China (Formosa)	41
Korea (North, South)	16
Philippines	5
Macao	1
	130

East Africa	
Ethiopia	..
Kenya	1
Gold Coast	1
	2

Union of South Africa	
Southwest Africa	..

Australia	
Australia	9
Netherlands New Guinea	4
New South Wales	1
Queensland	1
	15

Polynesia	
Marquesas Islands	3
New Zealand	16
Samoan Islands	4
Tongan Islands	..
Fiji Islands	..
	24

Unclassified	77

Recapitulation

United States	
New England States	116
Middle Atlantic States	305
East North Central States	405
West North Central States	246
South Atlantic States	478
East South Central States	83
West South Central States	254
Mountain States	10,981
Pacific Coast States	4,920
Other Anglo-America	442
Latin America	100
Europe	63
Middle East	68
Southern and Eastern Asia	145
Trans-Saharan Africa	2
Oceania	39
Unclassified	77
GRAND TOTAL	18,724

BRIGHAM YOUNG UNIVERSITY 1963-64 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS FROM STAKES AND MISSIONS AS OF AUGUST 23, 1964

Alameda	4
Alaska	24
Alberta	75
Albuquerque	58
Alpine	167
American Falls	27
American Fork	56
American River	62
Ammon	31
Apia	4
Ashley	50
Atlanta	30
Auckland	8
Bakersfield	55
Bannock	15
Bear Lake	16
Bear River	15
Beaumont	12
Beaver	32
Ben Lomond	23
Ben Lomond South	14
Benson	12
Big Horn	90
Billings	20
Blackfoot	30
Blaine	33
Boise	51
Boston	12
Bonneville	43
Bountiful	38
Bountiful East	2
Bountiful North	23
Bountiful South	35
Box Elder	35
Brigham City	3
B.Y.U. Campus	66
B.Y.U. 2 Campus	51
B.Y.U. 3 Campus	49
Burbank	85
Burley	62
Butler	8
Butte	34
Cache	3
Calgary	45
Cannon	7
Canoga Park	28
Canyon Rim	47
Carbon	42

Cascade	3
Casper	13
Cassia	31
Cedar	20
Cedar West	38
Cheyenne	44
Chicago	84
Chicago South	12
Cincinnati	37
Clearfield	24
Cleveland	13
Coeur d'Alene	12
Columbia River	93
Columbus	13
Concord	12
Cottonwood	22
Covina	49
Craig	21
Cumorah	29
Dallas	43
Davis	33
Denver	71
Denver West	52
Deseret	69
Detroit	48
Duchesne	60
East Cache	15
East Idaho Falls	57
East Jordan	28
East Long Beach	62
East Los Angeles	62
East Mesa	50
East Mill Creek	37
East Ogden	41
East Phoenix	51
East Pocatello	23
East Provo	312
East Rigby	35
East Sharon	413
Edmonton	21
El Paso	62
Emery	48
Emigration	25
Ensign	47
Farr West	11
Flagstaff	50
Florida	44
Fort Wayne	11
Franklin	29
Fresno	74
Fresno East	3
Garden Grove	26
Garfield	12
Glendale	123
Gooding	47
Grand Coulee	81
Grand Junction	47
Granger	23
Granger North	9
Granite	16
Granite Park	14
Grant	39
Grantsville	52
Great Falls	49
Greenboro	7
Gridley	64
Gunnison	25
Hamilton	4
Hayward	50
Highland	29
Hillside	38
Holladay	69
Honolulu	31
Houston	32
Humboldt	9
Huntington	70
Hyrum	18
Idaho	28
Idaho Falls	77
Illinois	7
Indianapolis	27
Inglewood	99
Juab	52
Juarez	35
Kanab	39
Kansas City	42
Kaysville	29
Kearns	14
Kearns North	9
Klamath	68
Kolob	134
Lake Mead	45
Lake View	13
Lansing	27
Las Vegas	118
Las Vegas North	59
Layton	36
Lehi	104
Leicester	1
Lethbridge	55
Lewiston	29
Liberty	19
Logan	3
London	5
Long Beach	46
Lorin Farr	31
Los Angeles	83
Lost River	18
Lyman	38
Macon	2
Malad	29
Manchester	2
Maricopa	66
Melbourne	4
Mesa	77
Mesa South	22
Miami	22
Midvale	55
Millard	53
Millcreek	27
Milwaukee	13
Minidoka	56
Minnesota	28
Missoula	28
Moapa	49
Mojave	36
Monterey Bay	32
Montpelier	41
Monument Park	35
Monument Park West	24
Morgan	16
Moroni	20
Mt. Graham	45
Mt. Jordan	74
Mt. Logan	8
Mt. Ogden	10
Mt. Rubidoux	68
Murray	18
Murray South	33
Nampa	130
Napa	53
Nebo	111
Nevada	50
New Jersey	50
New Orleans	15
New York	53
North Box Elder	33
North Carbon	24
North Carolina	13
North Davis	33
North Idaho Falls	57
North Jordan	35
North Pocatello	18
North Rexburg	38
North Sacramento	32
North Sanpete	24
North Seattle	56
North Sevier	23
North Tooele	28
North Weber	8
Norwalk	28
Nyssa	73
Oahu	42
Oakland Berkeley	135
Ogden	21
Oklahoma	17
Olympus	29
Oneida	41
Oquirrh	19
Orange County	63
Orem	147
Orem West	179
Orlando	26
Palo Alto	94
Palomar	42
Palmyra	98
Panguitch	39
Park	21
Parley	38
Parowan	11
Pearl Harbor	12
Pasadena	110
Philadelphia	20
Phoenix	34
Phoenix North	54
Phoenix West	1
Pike's Peak	24
Pioneer	16
Pocatello	17

Pomona	27
Portland	108
Portneuf	31
Potomac	30
Provo	182
Puget Sound	48
Raft River	15
Raleigh	10
Redding	22
Redondo	32
Redwood	24
Reno	42
Reno North	29
Reseda	71
Rexburg	61
Richland	125
Rigby	50
Riverdale	18
Riverside	12
Riverton	27
Roosevelt	49
Rose Park	21
Roy	15
Sacramento	50
St. George	21
St. George East	29
St. Johns	58
St. Joseph	17
St. Louis	20
Salem	39
Salmon River	8
Salt Lake	17
San Antonio	12
San Bernardino	72
San Diego	86
San Diego East	37
San Diego South	13
Sandy	44
Sandy East	12
San Fernando	86
San Francisco	39
San Joaquin	80
San Jose	50
San Juan	76
San Leandro	47
San Luis	31
San Luis Obispo	28
San Mateo	79
Santa Ana	36
Santa Barbara	61
Santa Maria	47
Santa Monica	92
Santa Rosa	59
Santaquin Tintic	30
Scottsdale	19
Seattle	82
Sevier	61
Sharon	200
Shelley	41
Shreveport	21
Smithfield	7
Snowflake	85
South Bear River	11
South Blackfoot	57
South Box Elder	6
South Carolina	29
South Carolina West	3
South Cottonwood	18
South Davis	42
South Idaho Falls	70
South Los Angeles	53
South Mesa	4
South Ogden	16
South Salt Lake	9
South Sanpete	37
South Sevier	33
South Summit	49
Southern Arizona	11
Spanish Fork	144
Spokane	59
Springville	136
Star Valley	52
Sugar House	25
Summit	17
Swiss	2
Sydney	3
Taber	22
Tacoma	27
Tampa	10
Taylor	77
Taylorsville	27
Temple View	11
Teton	53
Timpanogos	167
Tooele	39
Torrance	33
Toronto	19
Tucson	32
Tulsa	9
Twin Falls	99
Uintah	35
Union	58
University	24
University West	26
Utah	189
Utah State University	10
Uvada	21
Valley View	53
Vancouver	11
Virginia	30
Walnut Creek	111
Wasatch	80
Washington	128
Washington Terrace	3
Wayne	17
Weber	10
Weber Heights	22
Weiser	59
Wells	9
West Boise	92
West Covina	50
West Jordan	32
West Pocatello	18
West Sharon	128
West Utah	167
Whittier	71
Wichita	8
Wilford	48
Willamette	51
Winder	18
Wind River	6
Winter Quarters	29
Woodruff	29
Yakima	42
Yellowstone	51
Young	94
Yuma	49
Zion Park	15
Unclassified Stakes	503

MISSIONS

Alaska Canadian	9
Andes	4
Argentine	6
Australian	2
Austrian	1
Brazilian	4
Brazilian South	3
British	4
California	16
Canadian	21
Central American	5
Central Atlantic	29
Central States	28
Chilean	4
Danish	1
East Central States	38
Eastern Atlantic States	27
Eastern States	47
Finnish	6
Florida	17
French	4
French East	3
Great Lakes	13
Gulf States	39
Hawaiian	7
Korean	1
Mexican	2
Netherlands	2
New England	54
New Zealand	2
New Zealand South	2
North British	2
North Central States	22
North German	1
Northern California	9
Northern Far East	9
Northern Mexican	3
Northern States	44
Northwestern States	59
Norwegian	4
Samoan	2
South African	2
South German	1
Southern Australian	1
Southern Far East	10

Southern States	16
Southwest British	4
Southwest Indian	11
Spanish-American	6
Swedish	3
Swiss-Austrian	1
Texas	22
Uruguayan	3
West Central States	60
West German	4
West Mexican	1
Western Canadian	7
Western States	25
Unidentified Missions	7
TOTAL Missions	740
TOTAL Stakes	16,840
TOTAL Stakes and Missions	17,580
Non-L.D.S. Students	1,144
TOTAL Student Body	18,724

BRIGHAM YOUNG UNIVERSITY 1963-64 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME COLLEGE STUDENTS FROM THE COUNTIES OF UTAH AS OF AUGUST 21, 1964

Beaver	33
Box Elder	68
Cache	110
Carbon	68
Daggett	4
Davis	286
Duchesne	102
Emery	41
Garfield	46
Grand	24
Iron	62
Juab	56
Kane	26
Millard	127
Morgan	18
Piute	10
Rich	5
Salt Lake	1380
San Juan	64
Sanpete	111
Sevier	112
Summit	62
Tooele	117
Uintah	91
Utah	3560
Wasatch	82
Washington	73
Wayne	21
Weber	260
Unidentified	1
	7020

REGISTRATION THROUGH THE DIVISION OF CONTINUING EDUCATION
September 1, 1963 - August 31, 1964

	Credit Courses		Noncredit Courses		Totals	
Academic College	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.
Biol. & Agr. Sciences	473	38.9	579	13.1	1,052	52.0
Business	528	49.4	492	31.7	1,020	81.1
Education	2,288	170.7	663	18.0	2,951	188.7
Family Living	340	25.2	2,196	70.6	2,536	95.8
Fine Arts & Communications	706	48.9	3,365	574.7	4,071	623.6
General College	2,480	190.2	2,293	92.9	4,773	283.1
Hum. & Soc. Sciences	3,295	286.3	1,306	85.9	4,601	372.2
Nursing	4	.7	....	....	4	.7
Phys. & Engr. Sciences	1,364	134.7	630	16.5	1,994	151.2
Physical Education	523	29.1	771	74.5	1,294	103.6
Religious Instruction	1,225	85.9	12,629	194.4	13,854	280.3
Unclassified	116	7.2	6,456	200.8	6,572	208.0
TOTALS	13,342	1,067.2	31,380	1,373.1	44,722	2,440.3

*Full-time equivalent student

ENROLLMENT SUMMARY 1964-65
PROVO, UTAH
AS OF AUGUST 23, 1965

College	Freshman	Sophomore	Junior	Senior	5th-Year Professional	Graduate	Men	Women	Total
Biological and Agricultural Sciences	505	342	325	235			1152	255	1407
Business	529	465	424	434			1442	410	1852
Education	762	512	529	534			509	1834	2343
Family Living	418	345	321	294			32	1346	1378
Fine Arts and Communications	489	314	287	247			548	789	1337
General College***	2576	1041	450	197			2394	1870	4264
Humanities and Social Sciences***	937	784	774	730			1783	1442	3225
Nursing	11	46	55	43			2	153	155
Physical and Engineering Sciences	633	462	328	290	84		1679	118	1797
Physical Education	156	109	140	133			307	231	538
Graduate School						2418	1598	820	2418
Total Daytime College Students on Campus	7022	4420	3633	3137	84	2418	11446	9268	20714
Evening College Students on Campus							727	1005	1732
Net Cumulative Total College Level							12173	10273	22446**
B.Y.U. Laboratory Schools									
Elementary School							102	88	190
Junior High School							103	91	194
Senior High School							104	95	199
Total, B.Y.U. Laboratory Schools							309	274	583
TOTAL STUDENTS ON B.Y.U. CAMPUS							12482	10547	23029*

*Complete for the school year 1964-65, including Summer School 1965.

**Total enrollment for Fall and Spring Semesters only was 18496. Total Summer School enrollment was 5533, of whom 2218 attended Summer School only.

***General College and College of Humanities and Social Sciences were divided into four colleges on June 1, 1965, but will not show the division on this cumulative table until next year.

NOTE: There are no duplications in this table.

BRIGHAM YOUNG UNIVERSITY 1964-65 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS, PROVO CAMPUS, ACCORDING TO STATES AND FOREIGN AREAS AS OF AUGUST 23, 1965

New England States

Maine	12
New Hampshire	25
Vermont	3
Massachusetts	50
Rhode Island	9
Connecticut	23
	122

Middle Atlantic States

New York	184
New Jersey	100
Pennsylvania	95
	379

East North Central

Ohio	85
Indiana	69
Illinois	160
Michigan	97
Wisconsin	57
	468

West North Central

Minnesota	46
Iowa	43
Missouri	71
North Dakota	10
South Dakota	21
Nebraska	45
Kansas	37
	273

South Atlantic States

Delaware	7
Maryland	67
Virginia	188
Washington, D.C.	23
West Virginia	10
North Carolina	68
Georgia	53
South Carolina	36
Florida	121
	573

East South Central

Kentucky	16
Tennessee	22
Alabama	26
Mississippi	15
	79

West South Central

Arkansas	9
Louisiana	29
Oklahoma	48
Texas	207
	293

Mountain States

Montana	185
Idaho	1935
Wyoming	326
Colorado	344
New Mexico	262
Arizona	777
Utah	7611
Nevada	425
	11,867

Pacific Coast States

Alaska	34
Hawaii	144
Washington	651
Oregon	619
California	4209
	5657

Dominion of Canada

Alberta	392
British Columbia	34
Manitoba	3
Maritime Prov.	..
Ontario	53
Quebec	2
Saskatchewan	21
	505

Central America and Mexico

Canal Zone	1
Costa Rica	2
Guatemala	4
Honduras	2
Puerto Rico	..
Mexico	45
Panama	1
	55

Western South America and Andean Countries

Chile	4
Peru	9
Bolivia	..
	13

Eastern South America

Argentina	6
Brazil	13
Paraguay	2
Uruguay	5
Surinam Dutch Guinea	..
	26

Northern Europe

Denmark	2
Finland	9
Norway	3
Sweden	3
	17

British Isles

England	18
Scotland	4
	22

Western Europe

Belgium	1
France	5
Netherlands	1
Switzerland	5
	12

Southern Europe

Greece	3
	3

East Central Europe

Germany (East, West)	13
Hungary	..
	13

Eastern Mediterranean

Iran	44
Iraq	1
Israel	1
Jordan	3
Lebanon	3
Turkey	..
Egypt	..
Afghanistan	..
	52

Arabian Peninsula

Saudi Arabia	2
	2

Southern Asia

India	7
Pakistan	5
	12

Southeast Asia

Thailand	6
	6

Indonesia

Indonesia	..
Java	..
Vietnam	..

Far East

Hong Kong	31
Japan	24
Nationalist China (Formosa)	52
Korea (North, South)	19
Philippines	4
Macao	..
	130

East Africa

Ethiopia	..
Kenya	..
Gold Coast	1
	1

Union of South Africa

Southwest Africa	1
	1

Australia

Australia	7
Netherlands New Guinea	2
New South Wales	2
Queensland	1
	12

Polynesia

Marquesas Islands	1
New Zealand	11
Samoan Islands	5
Tongan Islands	1
Fiji Islands	1
	19

Unclassified	102

Recapitulation

United States	
New England States	122
Middle Atlantic States	379
East North Central States	468
West North Central States	273
South Atlantic States	573
East South Central States	79
West South Central States	293
Mountain States	11,867
Pacific Coast States	5,657
Other Anglo-America	505
Latin America	94
Europe	67
Middle East	54
Southern and Eastern Asia	148
Trans-Saharan Africa	2
Oceania	31
Unclassified	102
GRAND TOTAL	20,714

BRIGHAM YOUNG UNIVERSITY 1964-65 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS FROM STAKES AND MISSIONS AS OF AUGUST 23, 1965

Alameda	5
Alaska	27
Alberta	89
Albuquerque	79
Alpine	148
American Falls	34
American Fork	102
American River	70
Ammon	38
Anaheim	1
Apia	3
Ashley	48
Atlanta	21
Auckland	6
Bakersfield	74
Bannock	19
Bear Lake	17
Bear River	15
Beaumont	13
Beaver	30
Ben Lomond	15
Ben Lomond South	13
Benson	16
Big Horn	111
Berlin	1
Billings	29
Blackfoot	31
Blaine	33
Boise	62
Boston	18
Bonneville	33
Bountiful	47
Bountiful East	8
Bountiful North	28
Bountiful South	36
Box Elder	36
Brigham City	10
B.Y.U. Campus	62
B.Y.U. 2 Campus	35
B.Y.U. 3 Campus	52
B.Y.U. 4 Campus	7
B.Y.U. 5 Campus	11
B.Y.U. 6 Campus	5
Burbank	98
Burley	75
Butler	16
Butte	41
Cache	6

Calgary	43
Cannon	6
Canoga Park	38
Canyon Rim	46
Carbon	45
Cascade	19
Casper	19
Cassia	32
Cedar	13
Cedar West	30
Cheyenne	40
Chicago	76
Chicago South	23
Cincinnati	26
Clearfield	28
Cleveland	22
Coeur d'Alene	23
Columbia River	83
Columbus	18
Concord	35
Corvallis	16
Cottonwood	31
Covina	70
Craig	19
Cumorah	44
Dallas	54
Davis	40
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Swiss-Austrian	1
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Uruguayan	4
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Western Canadian	11
Western States	28
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TOTAL Missions	766
TOTAL Stakes	18,892
TOTAL Stakes and Missions	19,658
Non-L.D.S. Students	1,056
TOTAL Student Body	20,714

BRIGHAM YOUNG UNIVERSITY 1964-65 CUMULATIVE FALL AND SPRING SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME COLLEGE STUDENTS FROM THE COUNTIES OF UTAH AS OF AUGUST 23, 1965

Beaver	29
Box Elder	66
Cache	122
Carbon	69
Daggett	1
Davis	302
Duchesne	103
Emery	30
Garfield	29
Grand	23
Iron	49
Juab	58
Kane	24
Millard	136
Morgan	15
Piute	9
Rich	5
Salt Lake	1530
San Juan	86
Sanpete	116
Sevier	134
Summit	44
Tooele	128
Uintah	106
Utah	3909
Wasatch	89
Washington	77
Wayne	21
Weber	242
Unidentified	59
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REGISTRATION THROUGH THE DIVISION OF CONTINUING EDUCATION
September 1, 1964 - August 31, 1965

Academic College	Credit Courses Enrollments	Credit Courses *F.T.E.S.	Noncredit Courses Enrollments	Noncredit Courses *F.T.E.S.	Totals Enrollments	Totals *F.T.E.S.
Biol. & Agr. Sciences	563	48.81	571	17.40	1,134	66.21
Business	567	53.62	530	39.02	1,097	92.64
Education	3,685	274.11	1,995	42.05	5,680	316.16
Family Living	248	20.97	6,421	94.75	6,669	115.72
Fine Arts & Communications	840	58.58	8,750	721.33	9,590	779.91
General College	593	54.26	1,025	67.68	1,618	121.94
Hum. & Soc. Sciences	5,371	420.03	4,450	125.31	9,821	545.34
Nursing	16	2.93	5	.67	21	3.60
Phys. & Engr. Sciences	1,330	130.68	535	40.71	1,865	171.39
Physical Education	847	40.45	2,749	220.49	3,596	260.94
Religious Instruction	1,737	119.29	11,735	222.01	13,472	314.30
Unclassified	41	2.73	11,149	191.41	11,190	194.14
TOTALS	15,838	1,226.46	49,915	1782.83	65,753	3,009.29

*Full-time equivalent student

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